

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
one eighth inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

APPLICABLE CODES AND STANDARDS

1. THE INTERNATIONAL BUILDING CODE, (IBC 2006) AND ALL OTHER LOCAL AND STATE AGENCIES HAVE BE SUBJECTED OVER THIS PROJECT.
2. DEPARTMENT OF VETERANS AFFAIRS SIEISMIC DESIGN REQUIREMENTS (H-18-8).
3. VA PROGRAM GUIDE P6-18-15 VOLUME B.
4. PHYSICAL SECURITY DESIGN MANUAL FOR VA FACILITIES (FINAL DRAFT JULY 2007).
5. BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-08).
6. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ALLOWABLE STRESS DESIGN 9TH EDITION
7. AMERICAN WELDING SOCIETY (AWS) D1.1, D1.3, D1.4.
8. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE 7-02).
9. STEEL DECK INSTITUTE SPECIFICATIONS AND LOAD TABLES.
10. ASTM MATERIAL STANDARDS AS NOTED.
11. AISI SPECIFICATIONS FOR DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS.
12. STEEL JOIST INSTITUTE, STANDARD SPECIFICATIONS, LOAD TABLES, AND WEIGHT TABLES FOR STEEL JOISTS AND JOIST GIRDERS.
13. BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530-08 AND ACI 530.1-08).

DESIGN LOADS

1. DEAD LOAD – ACTUAL WEIGHT OF MATERIALS USED ADDING THE FOLLOWING:

ALLOWANCE FOR CEILINGS, LIGHTING, PLUMBING, FIRE PROTECTION AND HVAC	10 PSF
ALLOWANCE FOR PARTITIONS	20 PSF
ALLOWANCE FOR ROOFING SYSTEM	20 PSF

2. LIVE LOAD

AREA OF BUILDING	DESIGN LIVE LOAD
OFFICE/ADMINISTRATIVE SPACE	80 PSF
LABORATORIES	125 PSF
LOBBIES AND FIRST FLOOR CORRIDORS	100 PSF
HIGH DENSITY FILE STORAGE	200 PSF
MECHANICAL SPACES	150 PSF
STAIRS	100 PSF
ROOF	30 PSF

3. SNOW LOAD

GROUND SNOW LOAD	= 30 PSF
SNOW EXPOSURE FACTOR Ce = 1.0 (EXPOSURE C)	
SNOW LOAD IMPORTANCE FACTOR = 1.2	
THERMAL FACTOR Ct = 1.0	

4. WIND LOAD

BASIC WIND VELOCITY	= 90 MPH (3 SECOND GUSTS)
IMPORTANCE FACTOR = 1.15	
EXPOSURE CATEGORY = C	
INTERNAL PRESSURE COEFFICIENT Gcpi = +/- 0.18	

5. SEISMIC LOAD

IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE
OCCUPANCY CATEGORY III
SEISMIC IMPORTANCE FACTOR = 1.25
MAPPED SPECTRAL RESPONSE ACCELERATIONS: Ss = 0.128, S1 = 0.058
SITE CLASS: B
SEISMIC DESIGN CATEGORY: A
BASIC SEISMIC FORCE RESISTING SYSTEM: STEEL MOMENT RESISTING FRAMES (SEISMIC DETAILING REQUIRED)
DESIGN BASE SHEAR = 65 K
RESPONSE MODIFICATION FACTOR: Rd = 3, Cd = 3
ANALYSIS PROCEDURE: EQUIVALENT STATIC FORCE

FOUNDATION DESIGN

1. THE FOUNDATION DESIGN IS BASED UPON THE GEOTECHNICAL REPORT PREPARED BY GAI CONSULTANTS (GAI PROJECT NUMBER: C060465.00.002, DECEMBER 2006). WINE GROUTING IS REQUIRED PRIOR TO FOUNDATION EXCAVATION. REFER TO DRAWING CM1-100.
2. ASSUMED ALLOWABLE SOIL BEARING CAPACITY = 6000 PSF
3. FROST DEPTH = 3 FEET

MATERIALS OF CONSTRUCTION

1. NORMAL WEIGHT CONCRETE
GENERAL STRUCTURAL CONCRETE
28 DAY COMPRESSIVE STRENGTH
F'c = 4000 PSI
2. LIGHTWEIGHT CONCRETE
CONCRETE FILL ON METAL DECK
117 PCF PLUS OR MINUS 3 PCF
F'c = 3500 PSI
3. REINFORCING STEEL – ASTM A615-GRADE 60
Fy = 60 KSI
4. REINFORCING STEEL TO BE WELDED-ASTM A706 GRADE 60
Fy = 60 KSI
5. WELDED WIRE FABRIC – ASTM A185
Fy = 65 KSI
6. PRESTRESSED OR POST-TENSIONED TENDONS
ASTM A-416 GRADE 270
Fy = 270 KSI
7. STRUCTURAL STEEL
WIDE FLANGE AND TEE SHAPES-ASTM A992
ANGLES CHANNELS AND PLATE - ASTM A 36
TUBES - ASTM A500 GRADE B
PIPES - ASTM A53 GRADE B
BOLTS - ASTM A325
ANCHOR BOLTS - ASTM F1554
HIGH STRENGTH ANCHOR BOLT ASSEMBLY
ANCHOR BOLT - ASTM F1554
NUTS – ASTM A563 GRADE D
WELDING ELECTRODES - E70XX
METAL ROOF DECKING (GALVANIZED) - ASTM A653 G60 (Z180) ZINC COATING
COMPOSITE METAL FORM DECK (GALVANIZED) - ASTM A653 G60 (Z180) ZINC COATING
FY= 40 KSI, STRUCTURAL QUALITY
8. EXTERIOR WALL FRAMING STUDS - ASTM A570
18 TO 25 GAGE
12 TO 16 GAGE
Fy = 33 KSI
Fy = 50 KSI
9. MASONRY
CONCRETE MASONRY UNITS: ASTM C-90
GROUT: ASTM C476
MORTAR: ASTM C270
JOINT REINFORCEMENT: TRUSS TYPE
F'm = 1.5 KSI
F'c = 2.0 KSI
F'c = 2.0 KSI

CONSTRUCTION NOTES

- A. GENERAL CONSTRUCTION NOTES

1. STRUCTURAL DRAWINGS SHOULD NOT BE SCALED. PRINTED DIMENSIONS HAVE PRECEDENCE OVER SCALED DRAWINGS AND LARGE SCALE OVER SMALL.
2. ALL DRAWINGS AND SPECIFICATIONS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR LOCATION AND SIZE OF OPENINGS, BLOCKOUTS, FLOOR DEPRESSIONS, CURBS, DIMENSIONS, ETC. NOT INDICATED ON THE STRUCTURAL DRAWINGS. THE LOCATION AND SIZE OF MECHANICAL AND ELECTRICAL OPENINGS IN SLABS, WALLS AND DECKS SHALL BE COORDINATED BY THE CONTRACTOR. PROVIDE ALL ADDITIONAL FRAMING OR REINFORCING TO ACCOMMODATE OPENINGS AS REQUIRED BY THE APPLICABLE STANDARD DETAILS SHOWN ON THE STRUCTURAL DRAWINGS OR PROVIDED BY THE STRUCTURAL ENGINEER. NO HOLES, NOTCHES, BLOCKOUTS, ETC. ARE ALLOWED IN STRUCTURAL MEMBERS UNLESS DETAILLED ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.

3. WHERE DIMENSIONS ARE PROVIDED FOR OPENINGS, BLOCKOUTS, FLOOR DEPRESSIONS, CURBS, ETC., BUT MAY BE AFFECTED BY THE EQUIPMENT PURCHASED, THE CONTRACTOR SHALL VERIFY THE INFORMATION PROVIDED PRIOR TO CONSTRUCTION.
4. PROVIDE CONCRETE EQUIPMENT BASES AND INERTIAL BASES FOR MECHANICAL AND ELECTRICAL INSTALLATIONS. CONSTRUCT PADS AND BASES IN ACCORDANCE WITH THE TYPICAL DETAILS. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR LIMITS AND LOCATIONS.
5. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS. CHECK AND VERIFY EXISTING DIMENSIONS AND TAKE ADDITIONAL MEASUREMENTS AS NEEDED. NOTIFY ARCHITECT OF ANY DISCREPANCY BETWEEN ACTUAL CONDITIONS AND INDICATED CONDITIONS. MODIFICATION OF DETAILS OF CONSTRUCTION SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE ARCHITECT OR STRUCTURAL ENGINEER.
6. CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ADJACENT EXISTING SURFACES AND AREAS WHICH MAY BE DAMAGED BY NEW WORK.
7. ALL COLUMNS AND FOUNDATIONS, UNLESS NOTED OTHERWISE, SHALL BE CENTERED ON GRIDLINES IN EACH DIRECTION. BEAMS SHALL BE EQUALLY SPACED BETWEEN COLUMN CENTERLINES UNLESS NOTED OTHERWISE.
8. TYPICAL DETAILS SHALL APPLY IN GENERAL CONSTRUCTION UNLESS SPECIFICALLY DETAILLED. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE DESIGN AND CONSTRUCTION OF ALL FORMS, SHORING AND TEMPORARY BRACING. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE AND SAFETY OF WORKMEN DURING CONSTRUCTION.

- A. DO NOT PLACE CONSTRUCTION MATERIALS OR OTHER CONSTRUCTION LOADS ON THE STRUCTURE SUCH THAT THE LOADS PLACED EXCEED THE CAPACITY OF THE STRUCTURE.
- B. TAKE INTO CONSIDERATION THAT FULL STRUCTURAL CAPACITY OF MANY STRUCTURAL MEMBERS IS NOT REALIZED UNTIL STRUCTURAL ASSEMBLY IS COMPLETE; THAT IS, UNTIL SLABS, DECKS, DIAGONAL BRACING AND SHEAR WALLS ARE INSTALLED.
- C. PROVIDE TEMPORARY BRACING AND GUYING TO PROVIDE STABILITY AND RESIST ALL LOADS TO WHICH THE PARTIALLY COMPLETED STRUCTURE MAY BE SUBJECTED INCLUDING ERECTION EQUIPMENT AND ITS OPERATION. ADEQUACY OF TEMPORARY BRACING AND GUYING FOR THIS PURPOSE IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- D. DO NOT BACKFILL AGAINST BASEMENT WALLS UNTIL FRAMED SLAB AND SLAB ON GRADE LOCATED TOP AND BOTTOM OF BASEMENT WALL HAVE BEEN PLACED AND HAVE REACHED THEIR 28-DAY DESIGN STRENGTH.

B. EARTHWORK AND FOUNDATIONS

1. ALL EARTHWORK AND SITE PREPARATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE GEOTECHNICAL REPORT. ALL FOUNDATION EXCAVATIONS SHALL BE OBSERVED AND APPROVED BY THE GEOTECH.
2. ANY EXISTING FILLS OR UNSUITABLE SOILS AS DETERMINED BY THE GEOTECH SHALL BE EXCAVATED AND REPLACED WITH PROPERLY COMPACTED FILL.
3. EXTREME CARE SHALL BE EXERCISED WHEN EXCAVATING OR GRADING ADJACENT TO EXISTING STRUCTURES OR IMPROVEMENTS SO AS NOT TO DAMAGE OR UNDERMINE FOUNDATIONS, WALLS, SLABS, UTILITIES, ETC.
4. DO NOT EXCAVATE BELOW THE BEARING ELEVATION OF ANY COMPLETED FOOTING NOR ANY CLOSER TO THE FOOTING THAN A SLOPE OF TWO HORIZONTAL (MEASURED FROM EDGE OF FOOTING TO NEAREST POINT IN EXCAVATION) TO ONE VERTICAL.
5. HORIZONTAL CONSTRUCTION JOINTS IN COLUMN FOOTINGS, PILE CAPS, SLABS ON GRADE AND MAT FOUNDATIONS ARE NOT PERMITTED.
6. PROVIDE DOWELS FOR ALL WALLS EMBEDDED INTO COLUMN FOOTINGS, MAT FOUNDATIONS AND GRADE BEAMS. DOWELS SHALL BE THE SAME SIZE AND SPACING AS VERTICAL WALL REINFORCEMENT.
7. BOTTOM OF ALL FOOTINGS AND PILE CAPS SUBJECT TO FROST SHALL BE PLACED AT OR BELOW FROST DEPTH.

C. CONCRETE AND REINFORCING

1. LOCATION OF CONSTRUCTION JOINTS OR POUR JOINTS SHALL BE AS INDICATED ON APPROVED SHOP DRAWINGS.
2. ALL CONCRETE SHALL BE VIBRATED DURING PLACEMENT.
3. PROVIDE 3/4" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
4. NO STAKES, STEEL OR WOOD, SHALL BE PERMITTED IN ANY CONCRETE POUR. Suspend FORMS FROM ABOVE GRADE.
5. ANCHOR BOLTS, DOWELS, REINFORCING STEEL, INSERTS, ETC., SHALL BE SECURELY TIED IN PLACE PRIOR TO POURING CONCRETE. CONCRETE BLOCKS ONLY SHALL BE USED TO SUPPORT REINFORCING OFF GRADE.
6. SOFT METRIC EQUIVALENT BAR SIZES ARE DEFINED AS FOLLOWS:

U.S. CUSTOMARY -- EQUIVALENT SOFT METRIC

#3	#10
#4	#13
#5	#16
#6	#19
#7	#22
#8	#25
#9	#29
#10	#32
#11	#36
#14	#53
#18	#57

7. ALL REINFORCEMENT SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI 315.
8. PROVIDE MINIMUM CONCRETE COVERING FOR REINFORCEMENT AS FOLLOWS:
CONCRETE DEPOSITED AGAINST EARTH: 3 IN.
FORMED SURFACES EXPOSED TO WEATHER OR IN CONTACT WITH EARTH: 2 IN FOR REINFORCING BARS NO.6 OR LARGER; 1-1/2 IN FOR REINFORCING BARS LESS THAN NO.6.
BUILDING INTERIOR SURFACES: 1-1/2 IN FOR BEAMS, GIRDERS, AND COLUMNS; 3/4 IN FOR SLABS, WALLS AND JOISTS WITH NO.11 BARS OR SMALLER, AND 1-1/2 IN WITH NO.14 AND NO.18 BARS.
9. PROVIDE DOWELS OF SAME SIZE AND NUMBER FROM ADJACENT POUR, BOTH VERTICALLY AND HORIZONTALLY, TO MATCH TYPICAL REINFORCING SHOWN. LAPS TO BE IN ACCORDANCE WITH THE DEVELOPMENT LENGTH AND LAP SCHEDULE. DOWELS SHALL BE CLEARED AFTER POUR.
10. FIELD WELDING OR BENDING OF REINFORCING IS NOT PERMITTED EXCEPT AS INDICATED ON THE DRAWINGS OR AS APPROVED BY THE STRUCTURAL ENGINEER. USE LOW HYDROGEN ELECTRODES GRADE E70 OR E80 AS REQUIRED.
11. APPROVED ELECTRICAL CONDUIT MATERIAL CAST WITHIN STRUCTURAL CONCRETE MEMBERS SHALL CONFORM TO THE FOLLOWING:

- A. CONDUIT IN CONCRETE COLUMNS:
INSTALL NO CONDUIT LARGER THAN 3/4" IN CONCRETE COLUMNS. DO NOT INSTALL MULTIPLE CONDUITS IN A SINGLE CONCRETE COLUMN WITHOUT THE STRUCTURAL ENGINEERS APPROVAL.
- B. CONDUIT IN SLAB ON GRADE:
DIAMETER OF A SINGLE CONDUIT OR TWO OR MORE VERTICALLY STACKED CONDUITS (INCLUDING CROSSOVERS) SHALL NOT EXCEED 1/3 THE THICKNESS OF THE SLAB. THE OUTSIDE DIMENSION OF TWO OR MORE ADJACENT CONDUITS SHALL NOT EXCEED TWICE THE DEPTH OF THE SLAB AND THE SEPARATION BETWEEN GROUPS OF CONDUITS SHALL NOT BE LESS THAN THE THICKNESS OF THE SLAB.
- C. CONDUIT IN ELEVATED SLABS:
DIAMETER OF A SINGLE CONDUIT OR TWO OR MORE VERTICALLY STACKED CONDUITS (INCLUDING CROSSOVERS) SHALL NOT EXCEED 1/6 THE THICKNESS OF THE SLAB. THE OUTSIDE DIMENSION OF TWO OR MORE ADJACENT CONDUITS SHALL NOT EXCEED THE DEPTH OF THE SLAB AND THE SEPARATION BETWEEN GROUPS OF CONDUITS SHALL NOT BE LESS THAN THE THICKNESS OF THE SLAB.

12. CONTINUOUS REINFORCEMENT IN WALLS AND FOOTINGS MAY BE SPLICED AS REQUIRED, PROVIDED THAT BARS ARE OF THE LONGEST PRACTICAL LENGTH AND ALL SPLICES ARE SHOWN ON THE REINFORCING BAR SHOP DRAWINGS. SPLICES ARE TO BE STAGGERED WHEN POSSIBLE. PROVIDE LAP SPLICES AND DEVELOPMENT LENGTHS IN ACCORDANCE WITH THE DEVELOPMENT LENGTH AND LAP SPLICING SCHEDULE. USE CLASS B LAP SPLICES UNLESS NOTED OTHERWISE.

D. ARCHITECTURAL PRECAST CONCRETE

1. SEE ARCHITECTURAL DRAWINGS FOR PANEL SIZES AND LOCATIONS.
2. ALL PANELS, CONNECTIONS, INSERTS, BRACES AND EMBEDMENTS IN PANELS AND OTHER NECESSARY CONNECTING ITEMS SHALL BE DESIGNED, DETAILED AND PROVIDED BY THE PRECAST MANUFACTURER.
3. CONNECTION AND PANEL DESIGN SHALL INCORPORATE ALL GRAVITY, WIND SEISMIC LOADINGS AS REQUIRED BY THE BUILDING CODE.

E. EXPANSION ANCHORS

1. EXPANSION ANCHORS SHALL BE A SINGLE-END EXPANSION SHIELD ANCHOR WHICH COMPLIES WITH THE DESCRIPTIVE PART OF FEDERAL SPECIFICATION A-A 1922A, TYPE 4 FOR WEDGE ANCHORS. WEDGE ANCHORS SHALL BE HILTI KWIK BOLT TZ. SHELL ANCHORS SHALL BE HILTI HDI. ANCHORS SHALL BE BY HILTI FASTENING SYSTEMS OF TULSA, OK. (ICC ESR REPORTS ESR-1917 FOR WEDGE ANCHORS AND ESR 2895 FOR SHELL ANCHORS) OR EQUAL.
2. ANCHORS SHALL BE ZINC PLATED UNLESS SPECIFICALLY NOTED AS STAINLESS STEEL ON THE PLAN DETAILS.
3. WHEN DETAILS OF SECTIONS INDICATE EXPANSION ANCHORS BUT NO SIZE, PROVIDE ANCHORS WITH 3/4" DIAMETER.
4. PROVIDE THE FOLLOWING MINIMUM EMBEDMENT DEPTHS UNLESS NOTED OTHERWISE:

ANCHOR DIAMETER	EMBEDMENT DEPTH
1 1/4"	2"
3/8"	2 1/2"
1/2"	3 1/2"
5/8"	4"
3/4"	4 3/4"
1"	6"

5. WHEN INSTALLING DRILLED-IN-ANCHORS, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. WHEN INSTALLING THEM INTO CONCRETE WITH STRESSING TENDONS (POST-TENSIONED OR PRE-TENSIONED), LOCATE THE TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE AND CAUTION AND MAINTAIN AT LEAST 1" CLEAR BETWEEN THE TENDON AND THE ANCHOR. CUTTING A TENDON CAN CAUSE COLLAPSE.

F. ADHESIVE DOWELED ANCHORS

1. REINFORCING, BAR DOWELS, REINFORCING BARS, THREADED RODS, BOLTS ETC. WHICH ARE INDICATED TO BE ADHESIVE DOWELED INTO CONCRETE OR SOLID MASONRY SHALL BE ACCOMPISHED USING HIT HY-150 ADHESIVE BY HILTI FASTENING SYSTEMS OF TULSA, OK. (ICC REPORT NO. E85193), OR EQUAL.
2. DRILL, BRUSH, AND CLEAN ALL HOLES, AND INSTALL ALL ANCHORS IN COMPLETE ACCORDANCE WITH MANUFACTURERS PUBLISHED RECOMMENDATIONS, AS WELL AS ALL APPLICABLE BUILDING CODES OR ENGINEERING REPORTS.
3. PROVIDE THE FOLLOWING MINIMUM ANCHOR EMBEDMENT DEPTHS UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DETAILS:

A. REINFORCING BARS

BAR SIZE	EMBEDMENT DEPTH
#3	4"
#4	5"
#5	7"
#6	9"
#7	10"
#8	12"
#9	13"
#10	16"
#11	18"

B. BOLTS OR THREADED RODS

DIAMETER	EMBEDMENT DEPTH
3/8"	5"
1/2"	7"
5/8"	8"
3/4"	10"
7/8"	12"
1"	13"

C. HILTI HIS INSERTS

DIAMETER	EMBEDMENT DEPTH
3/8"	4 1/4"
1/2"	5"
5/8"	6 5/8"
3/4"	8 1/4"

G. HEADED STUDS AND DEFORMED BAR ANCHORS

1. HEADED STUDS AND DEFORMED BAR ANCHORS SHALL BE ELECTRIC-ARC STUD WELDED PER MANUFACTURERS RECOMMENDATIONS AND THE AWS CODE. FILLET WELDING SHALL NOT BE ALLOWED WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER. WELDMENT SHALL BE IN SUCH A MANNER AS TO PROVIDE COMPLETE FUSION BETWEEN THE END OF THE STUD AND THE PLATE. THERE SHOULD BE NO POROSITY OR EVIDENCE OF LACK OF FUSION BETWEEN THE WELDED END OF THE STUD AND THE PLATE. THE STUD WILL DECREASE IN LENGTH DURING WELDING APPROXIMATELY 1/8" FOR 5/8" DIAMETER AND SMALLER , 3/16" FOR 5/8" DIAMETER.
2. HEADED STUDS SHALL BE TYPE B PER THE AWS CODE WITH A MINIMUM YIELD STRENGTH OF 51 KSI NELSON GRANULAR FLUX-FILLED (OR APPROVED EQUIV). STUDS SHALL BE MANUFACTURED OF COLD DRAWN BAR STOCK CONFORMING TO ASTM A-108.
3. DEFORMED BAR ANCHORS SHALL COMPLY WITH ANCHOR A-496 WITH A MINIMUM YIELD STRENGTH OF 70 KSI.
4. UNLESS NOTED OTHERWISE, DEFORMED BAR ANCHOR LENGTH SHALL BE AS FOLLOWS:

BAR DIAMETER	EMBEDMENT LENGTH
3/8"	24"
1/2"	24"
5/8"	30"

H. STRUCTURAL STEEL

1. STEEL FRAMING DESIGNATIONS AND SYMBOLS ARE DEFINED IN THE STRUCTURAL STEEL SYMBOL LEGEND.
2. ALL FIELD BOLTED SHEAR CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER A325 BOLTS, UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE FULLY PRETENSIONED AND INSPECTED USING TENSION CONTROL TWIST-OFF STYLE BOLTS. UNLESS SPECIFICALLY INDICATED AS SLIP CRITICAL OR PRETENSIONED, ALL JOINTS SHALL BE DESIGNATED SNUG TIGHT. ROUTINE OBSERVATION THAT THE SPINED ENDS ARE PROPERLY SEVERED DURING INSTALLATION IS REQUIRED FOR ALL BOLTS.
3. PLACE NON-SHRINK GROUT UNDER ALL COLUMN BASE PLATES BEFORE PLACING ANY ELEVATED SLABS.
4. WHERE THE WORK OF OTHER TRADES REQUIRES CUTS OR OPENINGS TO BE MADE IN STRUCTURAL STEEL MEMBERS, APPROVAL SHALL BE OBTAINED FROM THE ENGINEER. SUCH OPENINGS SHALL BE MADE IN THE SHOP AND CLEARLY INDICATED ON THE SHOP DRAWING.

5. THE FOLLOWING PLATE THICKNESSES, WELD SIZES, AND ROD AND BOLT DIAMETERS SHALL BE CONSIDERED EQUIVALENT, UNLESS NOTED OTHERWISE:

THICKNESS OR DIAMETER		mm		INCHES	
mm	INCHES	mm	INCHES	mm	INCHES
5	3/16	13	1/2	13	1/2
6 OR 6.5	1/4	16	5/8	16	5/8
8	5/16	19 OR 20	3/4	19 OR 20	3/4
9.5 OR 10	3/8	22	7/8	25	1

6. E70XX ELECTRODES SHALL BE USED FOR ALL WELDING. PROPERLY QUALIFIED WELDERS SHALL PERFORM ALL WELDING, AS PRESCRIBED UNDER "STANDARD QUALIFICATION PROCEDURE" OF THE AMERICAN WELDING SOCIETY.
7. WELD LENGTHS CALLED FOR ON THE PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM SIZE WELDS AS SPECIFIED BY AISC OR 3/16", WHICH EVER IS GREATER.
8. ALL GROOVE WELDS INDICATED ON PLANS AND SECTIONS SHALL BE COMPLETE JOINT PENETRATION WELDS (CJP) UNLESS SPECIFICALLY INDICATED TO BE PARTIAL PENETRATION WELDS.

I. COMPOSITE CONSTRUCTION

1. CONCRETE WITH CALCIUM CHLORIDE OR ANY ADMIXTURE CONTAINING CHLORIDES SHALL NOT BE USED WITH COMPOSITE STEEL DECK.
2. COMPOSITE BEAMS ARE DESIGNED FOR UNSHORED CONSTRUCTION. BEAMS SHALL BE FABRICATED WITH THE CAMBER INDICATED ON THE PLANS. BEAMS WITHOUT SPECIFIED CAMBER SHALL BE ERECTED WITH THE STANDARD MILL TOLERANCE CAMBER UP.
3. PROVIDE COMPOSITE DECK LAYOUT THAT IS CONTINUOUS OVER THREE OR MORE SUPPORTS. COMPLY WITH DECK MANUFACTURER SHORING REQUIREMENTS.
4. TO COMPENSATE FOR DEFLECTION OF THE STRUCTURE UNDER THE LOAD OF FRESHLY PLACED CONCRETE, THE SLAB THICKNESS SHALL BE INCREASED ACCORDINGLY TO PROVIDE A LEVEL SURFACE WITHIN TOLERANCE. ADDITIONAL CONCRETE SHALL BE PLACED AT NO ADDITIONAL COST TO THE OWNER.
5. CORE DRILLED OR CUT OPENINGS IN COMPOSITE SLABS SHALL NOT EXCEED 10" IN ANY DIMENSION. LARGER OPENINGS, WHEN REQUIRED SHALL BE BOXED OUT AND REINFORCED PER TYPICAL UNFARMED OPENING DETAIL.
6. CORE DRILLED OR CUT OPENINGS SHALL NOT BE PLACED CLOSER THAN 1" OPENING DIAMETER OR WIDTH TO ANY BEAM NOR SPACED CLOSER THAN 2" OPENING DIAMETERS OR WIDTHS. WHEN TWO ADJACENT OPENINGS ARE OF A DIFFERENT SIZE, SPACING SHALL BE BASED UPON THE LARGER SIZE.
7. WHEN TOTAL WIDTH OF ADJACENT OPENINGS REQUIRED IS LARGER THAN 30" OR WHEN REQUIRED SPACING OF OPENINGS CANNOT BE MET, CORED OR CUT OPENINGS SHALL BE SUPPORTED ALONG ALL EDGES. PROVIDE W10X12 SUPPORT BEAMS AT THESE LOCATIONS. LOAD BEAMS 6" CLEAR OF OPENING EDGES.
8. ELECTRICAL CONDUIT IN SLABS ON METAL DECK SHALL NOT BE PERMITTED.

J. STAIR DESIGN

1. CONTRACTOR SHALL PROVIDE COMPLETE DRAWINGS AND CALCULATIONS FOR ALL STAIRWAYS, STAIRS, STAIR LANDINGS, STAIR MEMBERS, AND SUPPORTS NOT SHOWN SHALL BE STRUCTURALLY DESIGNED, DETAILED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE THAT THE PROJECT IS LOCATED.
2. ALL REQUIRED EMBEDDED ANGLES AND PLATES SHALL BE PART OF THE STAIR DESIGN AND DETAILING.
3. STAIRWAYS SHALL BE DESIGNED FOR DEAD LOAD, LIVE LOAD OF 100 PSF (4.8 kPa) AND SEISMIC LOADS.
4. STAIRS AND RELATED ITEMS SHALL COMPLY WITH THE BUILDING CODE.
5. REFER TO THE ARCHITECTURAL DRAWINGS FOR STAIRWAY DIMENSIONS, DETAILS AND OTHER REQUIREMENTS.
6. STAIRS MAY BE SUPPORTED BY THE PRIMARY STRUCTURE PROVIDED STAIR FRAMING DOES NOT IMPOSE ECCENTRIC OR TORSIONAL LOADING UPON THE PRIMARY FRAMING.

K. STEEL STUD EXTERIOR WALL FRAMING

1. CONTRACTOR SHALL PROVIDE COMPLETE DRAWINGS AND CALCULATIONS FOR ALL EXTERIOR STEEL STUD WALL FRAMING. ALL FRAMING MEMBERS, SPACING AND CONNECTIONS SHALL BE DESIGNED, DETAILED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED.
2. COMPLY WITH ALL LOADING REQUIREMENTS AS ESTABLISHED BY THE BUILDING CODE.
3. LIMIT MAXIMUM LATERAL DEFLECTION TO 1/600 OF SPAN WHERE EXTERIOR FINISH MATERIAL IS STONE OR MASONRY AND 1/360 OF SPAN OTHERWISE.
4. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONAL REQUIREMENTS, OPENING LOCATIONS, ETC., AND TO SPECIFICATION FOR ADDITIONAL REQUIREMENTS. STUDS SHALL BE DETAILED TO ACCOMMODATE MOVEMENT OF THE STRUCTURE THROUGH THE USE OF VERTICAL SLIDE CLIPS, SLIP CONNECTIONS, ETC.

L. POWDER ACTUATED FASTENERS

1. ALL POWDER ACTUATED FASTENERS SHALL BE APPROVED FOR TYPE, APPLICATION AND INSTALLATION AND SHALL HAVE AN APPROVED ICBO RESEARCH REPORT NUMBER.
2. FASTENERS SHALL NOT BE INSTALLED UNTIL THE CONCRETE HAS REACHED ITS DESIGN STRENGTH.
3. FASTENERS SHALL NOT BE INSTALLED IN CONCRETE WHERE THE THICKNESS IS LESS THAN THREE TIMES THE PENETRATION REQUIRED, EXCEPT 1 1/8" PENETRATION IN 3-1/4" THICK FLOOR SLAB IS ACCEPTABLE.
4. THE MINIMUM DISTANCE FROM THE EDGE OF CONCRETE TO CENTER OF ANCHOR IS 3 INCHES.
5. FASTENERS IN THE UNDERSIDE OF CONCRETE ON METAL DECKING SHALL BE PLACED IN THE HIGH FLUTE PORTION OF THE SLAB.
6. WHEN INSTALLING POWDER DRIVEN PINS IN EXISTING NON-PRESTRESSSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. WHEN INSTALLING THEM INTO EXISTING PRESTRESSED CONCRETE (PRE- OR POST-TENSIONED), LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A CLEARANCE OF 1 INCH BETWEEN THE REINFORCEMENT AND THE PIN.

M. MASONRY

1. ALL CONCRETE MASONRY UNITS SHALL BE HOLLOW BLOCK MADE WITH NORMAL WEIGHT AGGREGATE IN ACCORDANCE WITH ASTM C53.
2. ALL MASONRY WALLS SHALL BE REINFORCED UNLESS NOTED OTHERWISE, THE FOLLOWING SHALL CONSTITUTE MINIMUM REINFORCEMENT REQUIREMENTS:
3. PROVIDE VERTICAL REINFORCEMENT AS INDICATED. IN ADDITION, PROVIDE VERTICAL BARS AROUND ALL OPENINGS, AT CORNERS, ANCHORED INTERSECTIONS AND AT END OF WALL PANELS.

WALL SIZE	VERTICAL REINFORCEMENT	TRUSS TYPE JOINT REINF.
6"	1-#5 AT 48" CENTERED	2-3/16" DIA. SIDE RODS AT 16"
8"	1-#6 AT 48" CENTERED	2-3/16" DIA. SIDE RODS AT 16"
10 & 12"	1-#7 AT 48" EACH FACE	2-3/16" DIA. DISE RODS AT 16"

4. CONTINUOUS BOND BEAMS SHALL BE PLACED IN ONE OF THE TOP THREE COURSES OF ALL WALLS. BOND BEAMS SHALL BE REINFORCED AS FOLLOWS:

WALL SIZE	REINFORCEMENT
6"	1-#6
8"	2-#5
10 & 12"	2-#6

5. ALL REINFORCING SHALL HAVE A MINIMUM COVERAGE OF ONE BAR DIAMETER (1/2" MIN.) OF GROUT. CENTERED BARS SHALL BE SECURELY PLACED IN THE CENTER OF A CELL. EACH FACE BARS SHALL BE PLACED 1" CLEAR OF THE FACE SHELL. WHERE TWO LAYERS ARE REQUIRED IN 8" OR SMALLER BLOCK, USE ONE BAR IN EACH OF TWO ADJACENT CELLS.
6. CONTROL JOINTS: MAXIMUM SPACING OF CONTROL JOINTS SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE. DO NOT PLACE CONTROL JOINTS IN SHEAR WALLS. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION ON LOCATION OF CONTROL JOINTS:

EXTERIOR WALLS	INTERIOR WALLS
30 FT	40 FT

7. ALL MASONRY WALLS SHOWN ON STRUCTURAL DRAWINGS ARE LOAD BEARING, UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL DRAWINGS FOR NON-LOAD BEARING MASONRY WALLS.
8. REFER TO MECHANICAL, ELECTRICAL, PLUMBING AND ARCHITECTURAL DRAWINGS FOR LOCATIONS OF CONDUIT, PIPING, DUCTWORK, AND OPENINGS IN MASONRY WALLS. PROVIDE ADDITIONAL REINFORCEMENT AT OPENINGS OR SLEEVES AS INDICATED. DO NOT CUT REINFORCEMENT.
9. CONTINUOUS REINFORCING IN WALLS MAY BE SPLICED AS REQUIRED, PROVIDED BARS ARE OF THE LONGEST PRACTICAL LENGTH AND ALL SPLICES ARE SHOWN ON REINFORCING SHOP DRAWINGS. WHEREVER POSSIBLE, SPLICES SHALL BE STAGGERED.
10. LAP ALL REINFORCING BARS IN MASONRY 48 BAR DIAMETERS AT SPLICES. HORIZONTAL MASONRY REINFORCING SHALL BE CONTINUOUS AROUND ALL CORNERS AND INTERSECTIONS.
11. ALL VERTICAL REINFORCING SHALL BE CONTINUOUS FOR FULL HEIGHT OF WALL AND DOWELED INTO FOOTING OR SLAB ON GRADE BELOW AND EXTENDED INTO BOND BEAMS ABOVE. CONTINUITY MAY BE ESTABLISHED WITH LAPPED SPLICES MEETING ALL INDICATED REQUIREMENTS.
12. FILL ALL CELLS BELOW GRADE WITH GROUT. FILL ALL CELLS CONTAINING REINFORCEMENT WITH GROUT.
13. CELLS CONTAINING BOLTS SHALL BE GROUTED SOLID WITH AT LEAST 1" GROUT COVERAGE BETWEEN THE BOLT AND THE MASONRY AT THE BOLT FACE.
14. GALVANIZED STEEL ANGLE LINTELS SHALL BE USED FOR BRICK MASONRY LINTELS. PROVIDE ONE STEEL ANGLE FOR EACH 4 INCHES OF WALL THICKNESS. PROVIDE A MINIMUM OF 5 INCHES OF BEARING AT EACH END.

OPENING	STEEL ANGLES
UP TO 5'-0"	L4X3-1/2X1/4
UP TO 6'-0"	L5X3-1/2X5/16
UP TO 7'-0"	L6X3-1/2X5/16
UP TO 8'-0"	L6X4X3/8

15. LINTELS FOR CMU WALLS MAY BE CONSTRUCTED CONSISTENTLY IN ONE OF THE FOLLOWING METHODS:

1. MASONRY UNITS WITH GROUT FILL
 2. CAST-IN-PLACE REINFORCED CONCRETE
 3. PRECAST CONCRETE LINTELS
- PROVIDE TEXTURE AND PROVIDE VERTICAL DUMMY JOINTS MATCHING PATTERN OF VERTICAL JOINTS AND SCORING IN CONCRETE MASONRY WALLS IN WHICH LINTEL IS INSTALLED FOR BOTH THE CAST-IN-PLACE CONCRETE OR PRECAST CONCRETE LINTEL OPTIONS. CAST-IN-PLACE CONCRETE OR PRECAST CONCRETE SHALL BE NORMAL WEIGHT WITH F'c = 4000 PSI. PROVIDE A MINIMUM BEARING OF 6 INCHES AT EACH END OF LINTEL. FOR OPENINGS UP TO 10 FEET IN WIDTH, PROVIDE THE FOLLOWING LINTEL:
- 8" X 8" CONCRETE WITH 2-#5 BOTTOM BARS
8" X 16" CMU WITH 2-#5 BOTTOM BARS

N. QUALITY ASSURANCE

1. THE OWNER SHALL EMPLOY QUALIFIED SPECIAL INSPECTORS TO PERFORM INSPECTIONS IN ACCORDANCE WITH THE BUILDING CODE, AS A MINIMUM THE FOLLOWING

SCHEDULE OF SPECIAL INSPECTION SERVICES

Inspection Item Required	Frequency		Specification Section	Code Reference	Remarks	Inspection Item Required	Frequency		Specification Section	Code Reference	Remarks
	Continuous	Periodic					Continuous	Periodic			
Spray Fire Protection Material						Soil & Earthwork					
Inspect surface preparation of members		●		IBC Table 1704.10		Observe proof-rolling of subgrade prior to beginning fill placement		●	31 23 00	IBC 1704.7	
Inspect application conditions and applied thickness	●					Observe placement and compaction of fill and backfill material.	●				
Test density & bonding strength & thickness at 10% of all beams, columns, & braces		●				Testing and evaluation of in-place density of compacted fill as work progresses		●			
Cold-Formed Steel Framing						Concrete & Reinforcing Steel					
Observe & verify use of correct member sizes, material thickness, fasteners, & welding		●	09 21 27			Observe, test as needed, and approve footing bearing prior to placing of reinforcing steel and concrete		●			
General Structural Observations						Concrete & Reinforcing Steel					
Conduct weekly visual observation of the structural systems for general conformance to the construction documents. Prepare weekly report of observations describing work progress and non-conforming items.	●		01 45 23			Observe placement of reinforcing steel prior to the closing of the forms and arrival of concrete onsite		●	03 20 00	IBC 1704.4	
						Observe welding of steel reinforcement, if any	●				AWS D1.4:ACI 318-05.2 & BC 1903.5.2
Concrete masonry						Verify correct material used, including the use of A706 in welded splices, if any		●			
Proportions of mortar and grout.		●	04 22 00			Observe & verify placement of embedded bolts & rods prior to concrete placement		●		IBC 1704.4	
Construction of mortar joints		●	04 22 00			Verify use of correct concrete mix design and review delivery tickets		●	03 31 00		
Location and grade of reinforcement and connectors.		●	04 22 00			Sample fresh concrete and measure slump, air content, and temperature during concrete delivery		●	03 08 13	IBC 1704.4	Additional cylinders shall be made as needed for early form removal. Note: Two cylinders are required for an acceptable test & single cylinder break is unacceptable for strength evaluation purposes
Type, size, and location of anchors, including anchorage of masonry to structural members, frames, or other construction.		●	04 22 00			Take concrete specimens for strength tests to be performed in lab. A minimum of five (5) cylinders shall be made. Test two at seven days and two at 28 days. The 5th cylinder shall be tested at 28 days if one or both of the 28-day cylinder results are below required strength.		●			
Specified size grade and typ. of reinforcement		●	04 22 00			Perform concrete strength testing in lab		●	03 08 13		
Protection of masonry during cold weather.		●				Maintain a spreadsheet showing date, sequential order of strength test results and indicate running average		●		ACI 318 PAR. 5.8.3.3	
Inspection of grout space and concrete fill (grout) placement.		●	04 22 00			Observe for proper concrete placement		●	03 31 10	ACI 318 PAR. 5.9.8.5.10	
Preparation of concrete fill (grout) and mortar specimens.	●		04 22 00			Observe for proper curing temperature and techniques		●		ACI 318 PAR. 5.11, 5.12, & 5.13	
Compliance with required inspection provisions. Contract documents and the approved submittals shall be verified		●	04 22 00			Verify that the necessary design strength has been reached prior to the removal of forms		●			
						Measure floor flatness and levelness as needed when questionable surfaces are observed		●	03 35 00		
Structural Steel											
Verify fabricator certification								●	05 12 10	IBC 1704.2	
Hold pre-construction meetings between the engineer of record, the fabricators and erectors quality control personnel, and the quality assurance agency to plan and discuss the project, fabrication procedures, erection procedures, and inspection procedures.								●	05 12 10		FEMA-353 Recommendation
Inspect fabrication shop to observe fabrication procedures								●	05 12 10		Only one inspection is required unless on-site events indicate further inspections are necessary
Verify correct structural steel material delivered to job site.								●	05 12 10	IBC 1708.4	
Verify joint weld procedures are being used in accordance with AWS								●	05 12 10	AWS D1.1	
Verify contractor's receipt of welder certifications								●			
Verify correct filler material used in welds								●	05 12 10	AISC LRFD A3.5	
Visually inspect all welds								●		AWS D1.1 & AWS	
Perform ultrasonic or magnetic particle testing on all full penetration welds								●			
Observe & perform ultrasonic or magnetic particle testing on all welds (including full & partial penetration and fillet) on connections within the lateral force resisting system, braces & rigid frames								●			
Perform liquid dye penetration testing on 20% of all partial penetration and fillet welds								●			
Inspect steel frame joint details for compliance with approved contract documents								●		IBC 1704.3.2	
Verify correct material used high-strength bolts, nuts, and washers								●		AISC LRFD A3.3	
Observe & check tightness of all bolts in bearing connections								●		IBC 1704.3.3; AISC LRFD M2.5	
Observe & check torque of all bolts in pretensioned connections								●		IBC 1704.3.3; AISC LRFD M2.5	
Observe and test all field applied headed studs								●			

STATEMENT OF SPECIAL INSPECTIONS

PROJECT NAME	VA CARES CONSOLIDATION VAMC, RESEARCH OFFICE BUILDING	
PROJECT LOCATION	PITTSBURGH, PA	
BUILDING OWNER OR OWNERS' AGENT	OFFICE OF FACILITIES MANAGEMENT DEPT. OF VETERANS AFFAIRS	
ARCHITECT OF RECORD (AR)		LICENSE: NY 029667-1
	COMPANY: ASTORINO	
STRUCTURAL ENGINEER OF RECORD (SER)	NAME: MICHAEL G. PACZAK, P.E.	LICENSE: PA 073079
	COMPANY: HDR ARCHITECTURE, INC.	
GEOTECHNICAL ENGINEER OF RECORD (GER)	NAME:	LICENSE:
	COMPANY:	
SPECIAL INSPECTIONS ENGINEER OF RECORD (SERR)	NAME:	
	COMPANY:	
GENERAL CONTRACTOR	NAME:	
REPRESENTATIVE	NAME:	

THIS STATEMENT OF SPECIAL INSPECTIONS IS PREPARED IN ACCORDANCE WITH SECTION 1705 OF THE 2006 INTERNATIONAL BUILDING CODE (IBC). IT INCLUDES A SCHEDULE OF SPECIAL INSPECTIONS APPLICABLE TO THIS PROJECT.

THE SPECIAL INSPECTIONS ENGINEER OF RECORD SHALL KEEP RECORDS OF SPECIFIED SPECIAL INSPECTIONS AND TESTING AND SHALL FURNISH COPIES OF INSPECTION AND TESTING REPORTS TO BNLS CONSTRUCTION REPRESENTATIVE AND TO THE APPROPRIATE DESIGN PROFESSIONALS OF RECORD UPON REQUEST. DETAILED SUMMARIES OF ALL SPECIAL INSPECTION ACTIVITIES, FINDINGS, DEFICIENCIES, AND DISCREPANCIES SHALL BE FURNISHED TO THE VA'S CONSTRUCTION REPRESENTATIVE AND TO THE APPROPRIATE DESIGN PROFESSIONALS OF RECORD AT INTERVALS NOT EXCEEDING 1 MONTH.

DISCREPANCIES FROM THE APPROVED PLANS, SPECIFICATIONS, SHOP DRAWINGS, OR DESIGN DIRECTIVES AND CODE VIOLATIONS OBSERVED DURING THE CONDUCT OF SPECIAL INSPECTIONS SERVICES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, TO THE ATTENTION OF THE VA'S CONSTRUCTION REPRESENTATIVE, AND TO THE APPROPRIATE DESIGN PROFESSIONAL OF RECORD.

A FINAL REPORT OF SPECIAL INSPECTIONS DOCUMENTING COMPLETION OF THE SPECIFIED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES, DEFICIENCIES, AND CODE VIOLATIONS SHALL BE SUBMITTED AND APPROVED BY THE VA's AND THE DESIGN PROFESSIONALS OF RECORD PRIOR TO FINAL INSPECTION.

PREPARED BY:	NAME: JUDY COSBY, P.E.	
	SIGNATURE:	DATE:
USACE:	NAME:	
	SIGNATURE:	DATE:

TESTING AND INSPECTION SERVICES

QUALIFIED SPECIAL INSPECTORS SHALL BE EMPLOYED PER THE PROVISIONS OF THE CONSTRUCTION CONTRACT TO PERFORM INSPECTIONS IN ACCORDANCE WITH THE BUILDING CODE. INSPECTORS SHALL PERFORM ALL DUTIES AND RESPONSIBILITIES AS REQUIRED BY THE BUILDING CODE

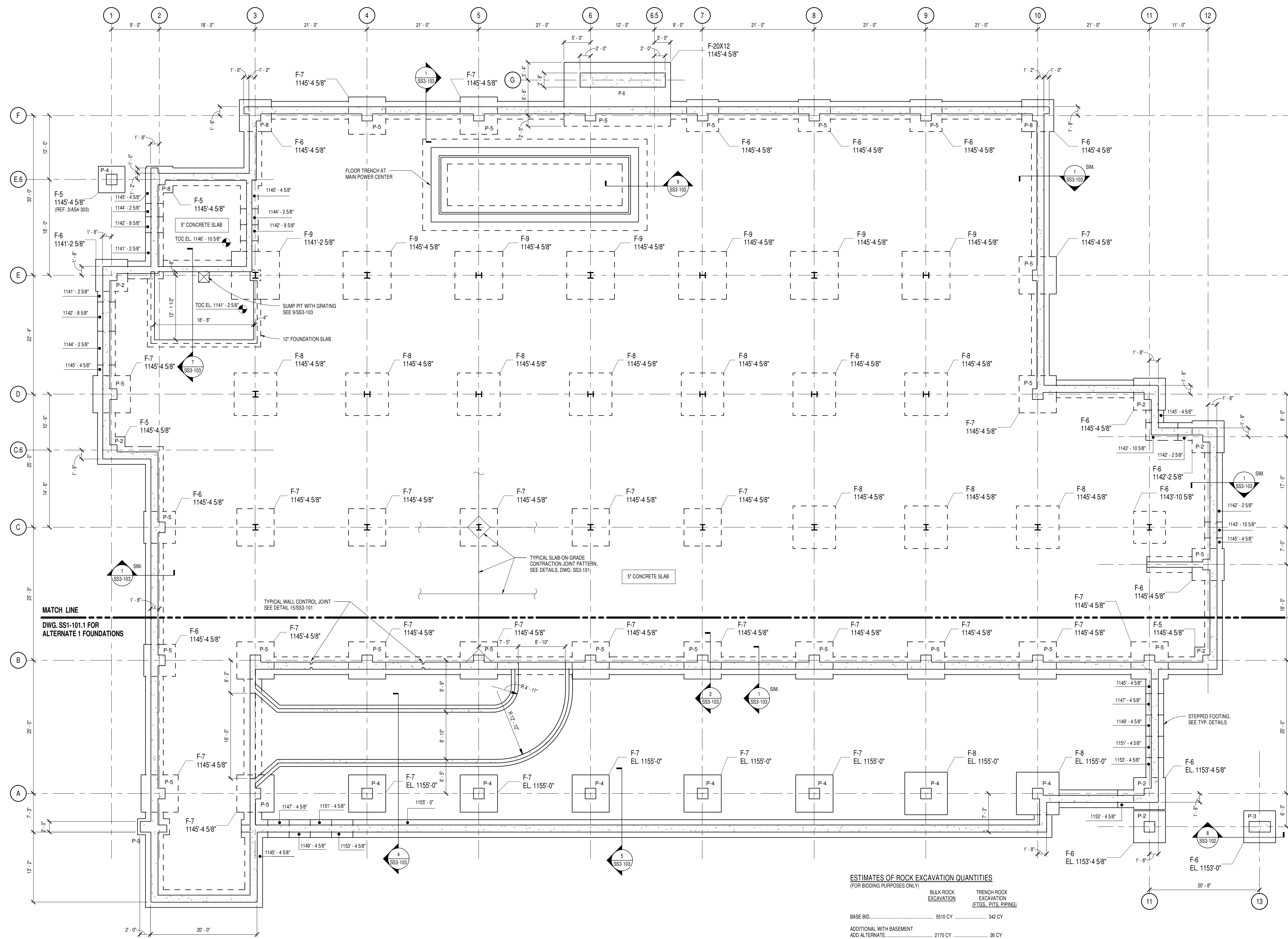
THE SCHEDULE CONTAINS A LIST OF SPECIAL INSPECTION ACTIVITIES RELATED TO THE QUALITY ASSURANCE PLAN REQUIRED BY THE BUILDING CODE (IBC CHAPTER 17) FOR THE FABRICATION, ERECTION AND CONSTRUCTION OF THE STRUCTURAL SYSTEMS AS GIVEN IN THE SPECIFICATIONS AND DRAWINGS OF THE PROJECT. ALL INSPECTORS SHALL BE QUALIFIED BY TRAINING AND EXPERIENCE FOR THE REQUIRED INSPECTIONS AND TEST PROCEDURES. REFER TO IBC CHAPTER 17 "STRUCTURAL TESTS AND SPECIAL INSPECTIONS" FOR SPECIFIC TEST PROCEDURES.

TESTING AND INSPECTION REPORTS SHALL BE PREPARED FOR EACH INSPECTION ITEM ON A DAILY BASIS WHENEVER WORK IS PERFORMED ON THAT ITEM. REPORTS SHALL BE DISTRIBUTED TO THE VA's CONTRACTOR, BUILDING OFFICIAL (IF REQUESTED), AND ARCHITECT FOR THEIR REVIEW, COMMENT, AND ACTION AS NEEDED.

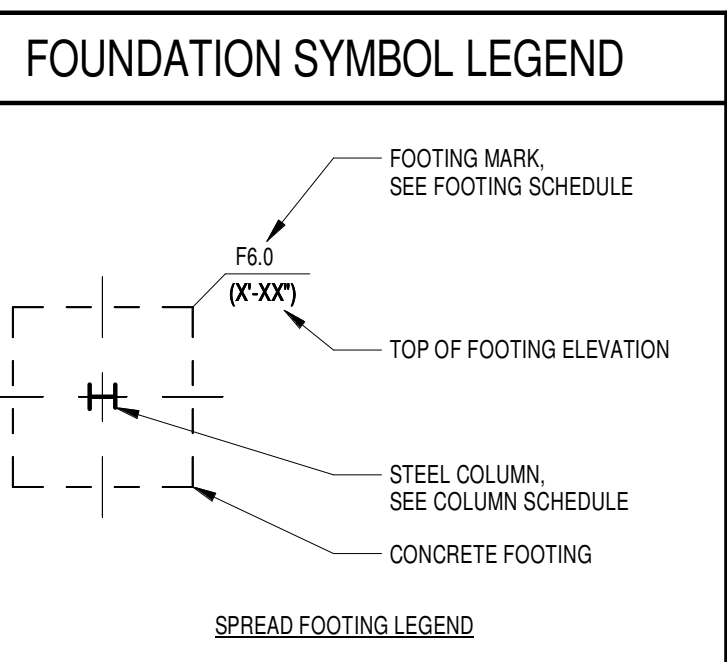
AISC CERTIFICATION IS NOT CONSIDERED TO BE FABRICATOR APPROVAL PER SECTION 1704.2.2 UNLESS SPECIFICALLY APPROVED BY IN LIEU OF, OR UNTIL SUCH APPROVAL IS GRANTED. SPECIAL INSPECTION PROVISIONS FOR STRUCTURAL STEEL SHALL BE CONSIDERED TO BE APPLICABLE TO THOSE COMPONENTS FABRICATED AND/OR ASSEMBLED IN THE FABRICATION SHOP.

[illegible]

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



- PLAN NOTES**
1. TOP OF SLAB ON GRADE EL. = 1145' - 10 5/8".
 2. SLAB ON GRADE SHALL BE 5" THICK REINFORCED WITH 6X6-W2.8XW2.8W/WF OVER VAPOR BARRIER AND COMPACTED GRANULAR FILL.
 3. CONTRACTION JOINTS IN SLABS ON GRADE SHALL BE LOCATED ON COLUMN LINES AND BETWEEN COLUMN LINES WHERE NECESSARY IN BOTH DIRECTIONS SO AS NOT TO EXCEED JOINT SPACING OF 16'.
 4. EXTENT & LOCATION OF FLOOR DEPRESSIONS SHALL BE COORDINATED WITH ARCH. DRAWINGS.
 5. GENERAL CONTRACTOR TO COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH THE DRAWINGS OF OTHER DISCIPLINES AND RESOLVE ANY DISCREPANCIES IN WRITING WITH THE ARCHITECT AND ENGINEER PRIOR TO PLACING CONCRETE.



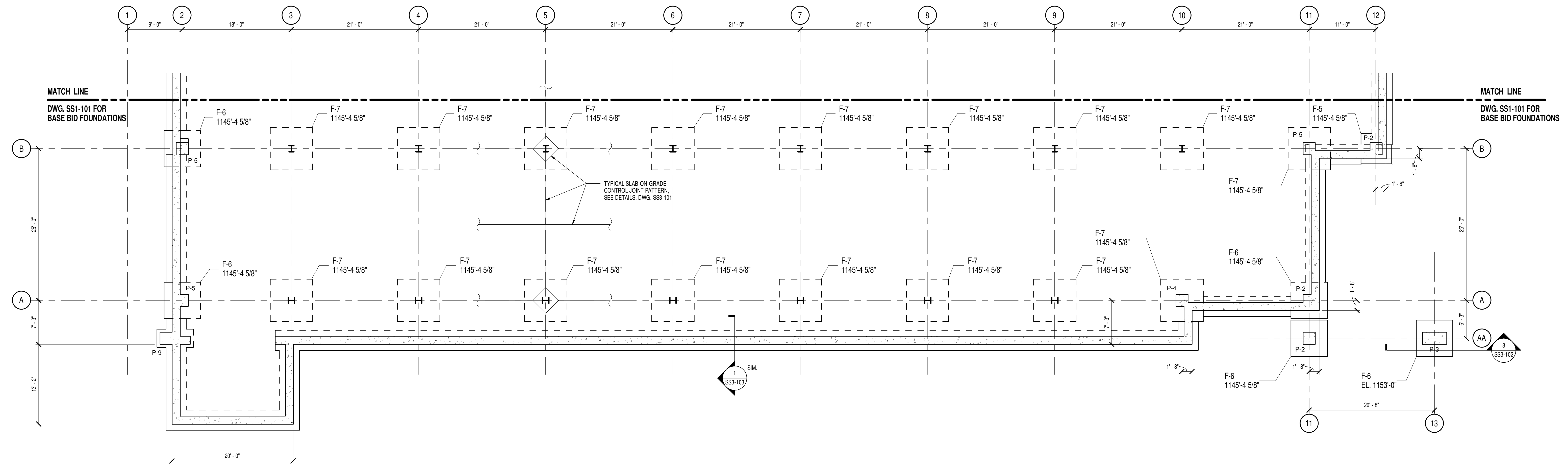
ESTIMATES OF ROCK EXCAVATION QUANTITIES
(FOR BIDDING PURPOSES ONLY)

	BULK ROCK EXCAVATION	TRENCH ROCK EXCAVATION (TOS, PITS, PIPING)
BASE BID	5510 CY	342 CY
ADDITIONAL WITH BASEMENT	2170 CY	26 CY

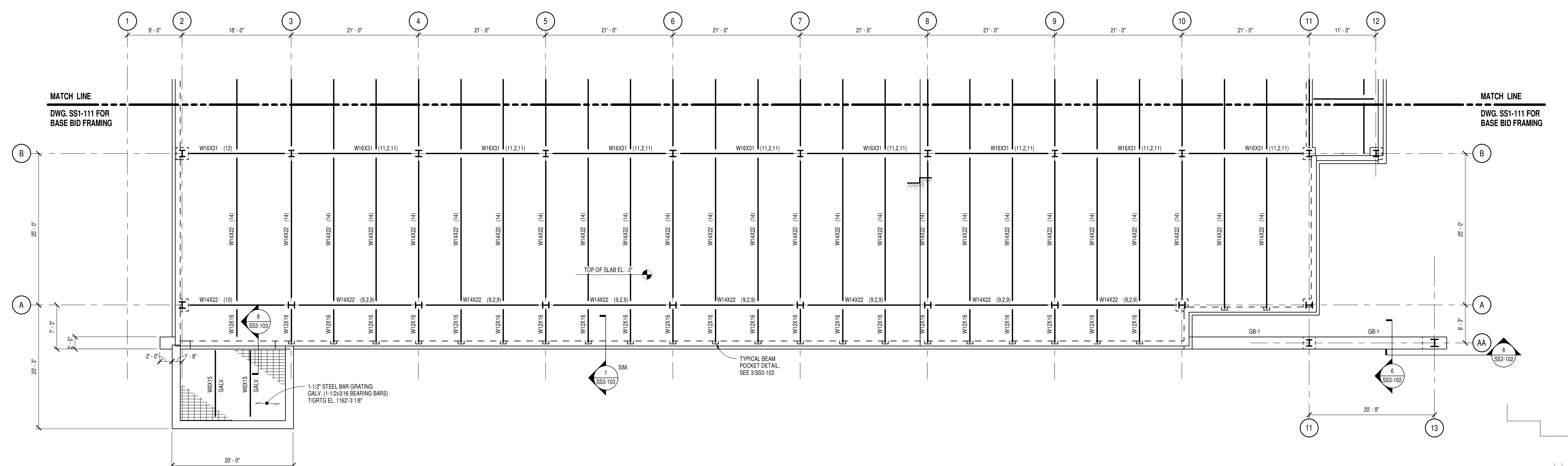
FOR CONSTRUCTION
FULLY SPRINKLERED

CONSULTANTS: HDR HDR Architecture, Inc. 1101 King Street Suite 400 Alexandria, Virginia 22314-2944 703.518.8500		ARCHITECT/ENGINEERS: ASTORINO ARCHITECTURE ENGINEERING INTERIOR DESIGN DESIGN/BUILD 221 First Pitt Boulevard Pittsburgh, Pennsylvania 15222 TEL: 412.765.1700 FAX: 412.765.1711 www.astorino.com		Drawing Title BASEMENT FLOOR AND FOUNDATION PLAN Approved: Project Director		Project Title VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA, RESEARCH OFFICE BLDG. Location VAPHS UNIVERSITY DRIVE Date 08-18-2010 Checked JHC Drawn RAW		Project Number 646CA2500R Building Number 30 Drawing Number SS1-101 Dwg. of		Office of Facilities Management Department of Veterans Affairs	
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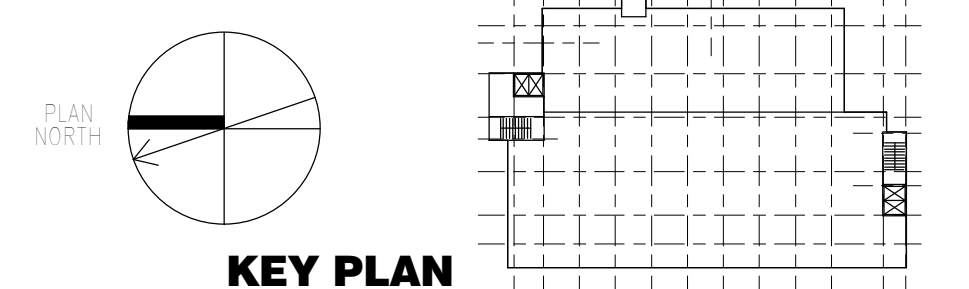
three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



1 BASEMENT FLOOR AND FOUNDATION PLAN - ALTERNATE 1
1/8" = 1'-0"
REFER TO SLAB ON GRADE NOTES, DWG. SS1-111.



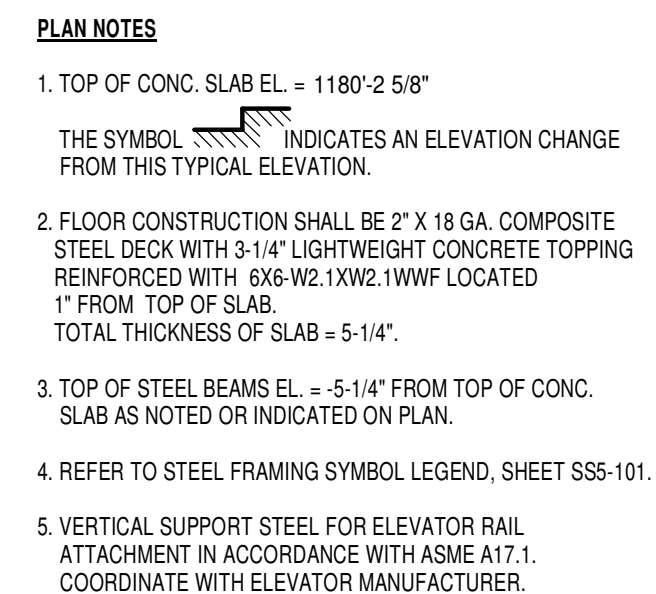
2 GROUND FLOOR FRAMING PLAN - ALTERNATE 1
1/8" = 1'-0"
REFER TO COMPOSITE SLAB NOTES, DWG. SS1-111.



FOR CONSTRUCTION
FULLY SPRINKLERED

CONSULTANTS: HDR HDR Architecture, Inc. 1101 King Street Suite 400 Alexandria, Virginia 22314-2944 703.518.8500		ARCHITECT/ENGINEERS: ASTORINO ARCHITECTURE ENGINEERING INTERIOR DESIGN DESIGN/BUILD 227 First Pitt Boulevard Pittsburgh, Pennsylvania 15222 TEL: 412.755.1700 FAX: 412.755.1711 www.astorino.com		Drawing Title BASEMENT AND GROUND FLOOR - ALTERNATE 1 Approved: Project Director		Project Title VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA, RESEARCH OFFICE BLDG. Location VAPHS UNIVERSITY DRIVE Date 08-18-2010 Checked JHC Drawn RAW		Project Number 646CA2500R Building Number 30 Drawing Number SS1-101.1 Dwg. of		Office of Facilities Management Department of Veterans Affairs	
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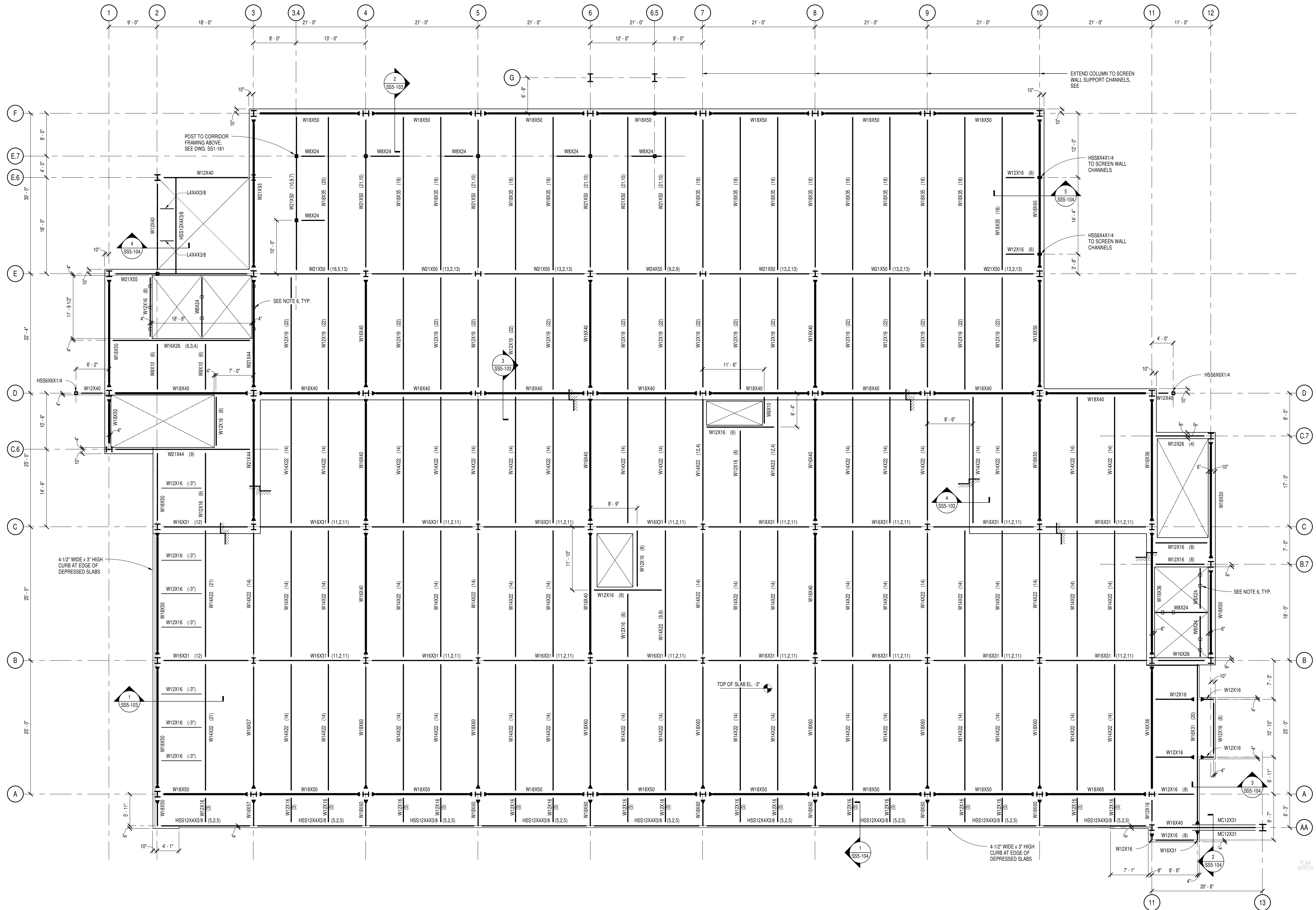




KEY PLAN

 Department of
Veterans Affairs[illegible]

one eighth inch = one foot
one quarter inch = one foot
one half inch = one foot
three eighths inch = one foot
one inch = one foot
two quarters inch = one foot
three quarters inch = one foot
one and one half inches = one foot
two and one half inches = one foot
three inches = one foot



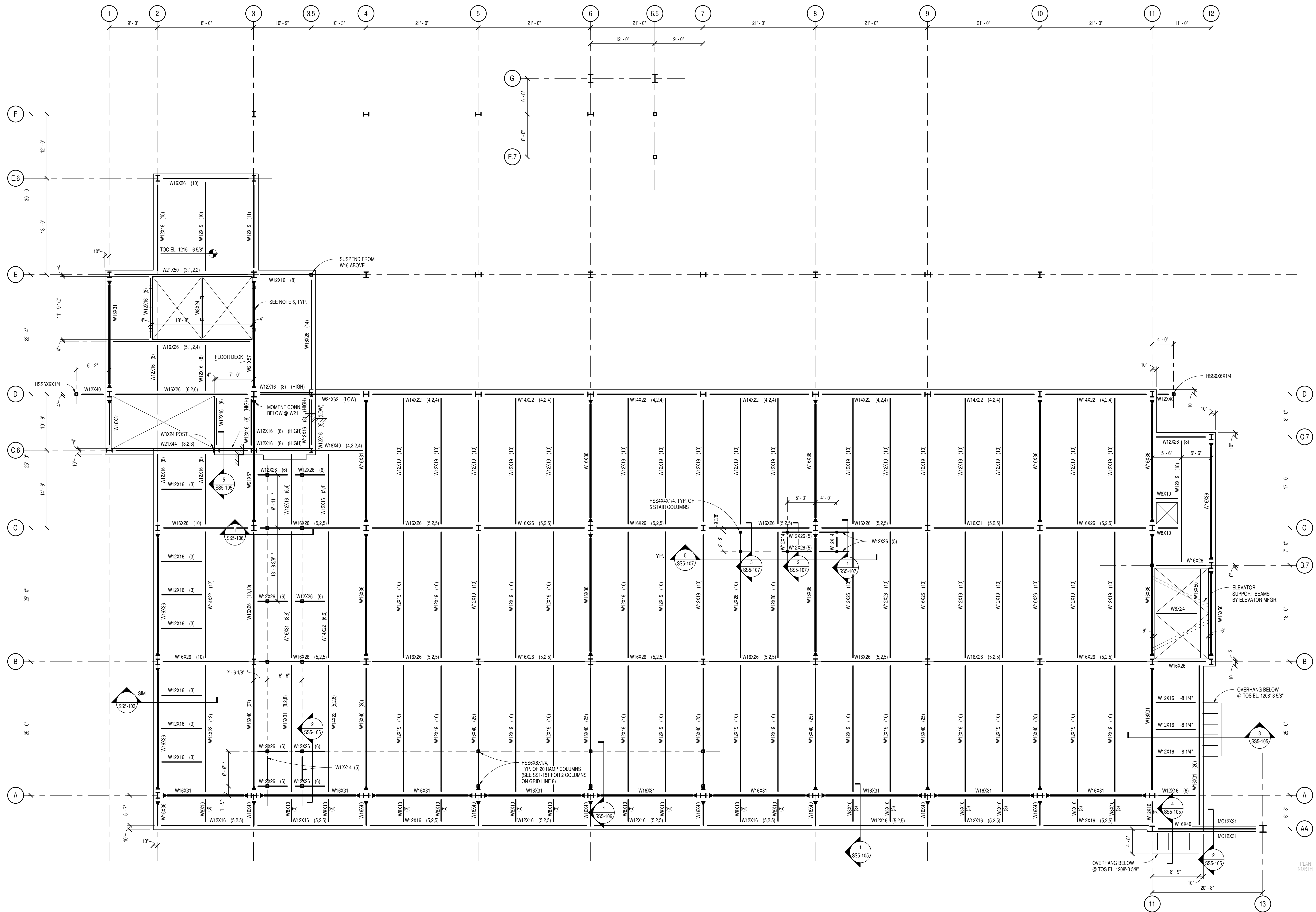
- PLAN NOTES**
1. TOP OF CONC. SLAB EL. = 1197'-6 5/8"
 2. FLOOR CONSTRUCTION SHALL BE 2" X 18 GA. COMPOSITE STEEL DECK WITH 5-1/4" LIGHTWEIGHT CONCRETE TOPPING REINFORCED WITH 8X6-W2.1XW2.1WWF LOCATED 1" FROM TOP OF SLAB. TOTAL THICKNESS OF SLAB = 5-1/4".
 3. TOP OF STEEL BEAMS EL. = 5-1/4" FROM TOP OF CONC. SLAB AS NOTED OR INDICATED ON PLAN.
 4. REFER TO STEEL FRAMING SYMBOL LEGEND, SHEET SSS-101.
 5. VERTICAL SUPPORT STEEL FOR ELEVATOR RAIL ATTACHMENT IN ACCORDANCE WITH ASME A17.1. COORDINATE WITH ELEVATOR MANUFACTURER.

KEY PLAN

FOR CONSTRUCTION
FULLY SPRINKLERED

CONSULTANTS: HDR HDR Architecture, Inc. 1101 King Street Suite 400 Alexandria, Virginia 22314-2944 703.518.8500		ARCHITECT/ENGINEERS: ASTORINO ARCHITECTURE ENGINEERING INTERIOR DESIGN DESIGN/BUILD 227 First Pitt Boulevard Pittsburgh, Pennsylvania 15222 TEL 412.765.1700 FAX 412.765.1711 www.astorino.com		Drawing Title SECOND FLOOR FRAMING PLAN Approved: Project Director		Project Title VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA, RESEARCH OFFICE BLDG. Location VAPHS UNIVERSITY DRIVE Date 08-18-2010 Checked JHC Drawn RAW		Project Number 646CA2500R Building Number 30 Drawing Number SS1-131 Dwg. of		Office of Facilities Management Department of Veterans Affairs	
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one eighth inch = one foot
one quarter inch = one foot
one half inch = one foot
three eighths inch = one foot
one inch = one foot
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one and one half inches = one foot
two and one half inches = one foot
three inches = one foot



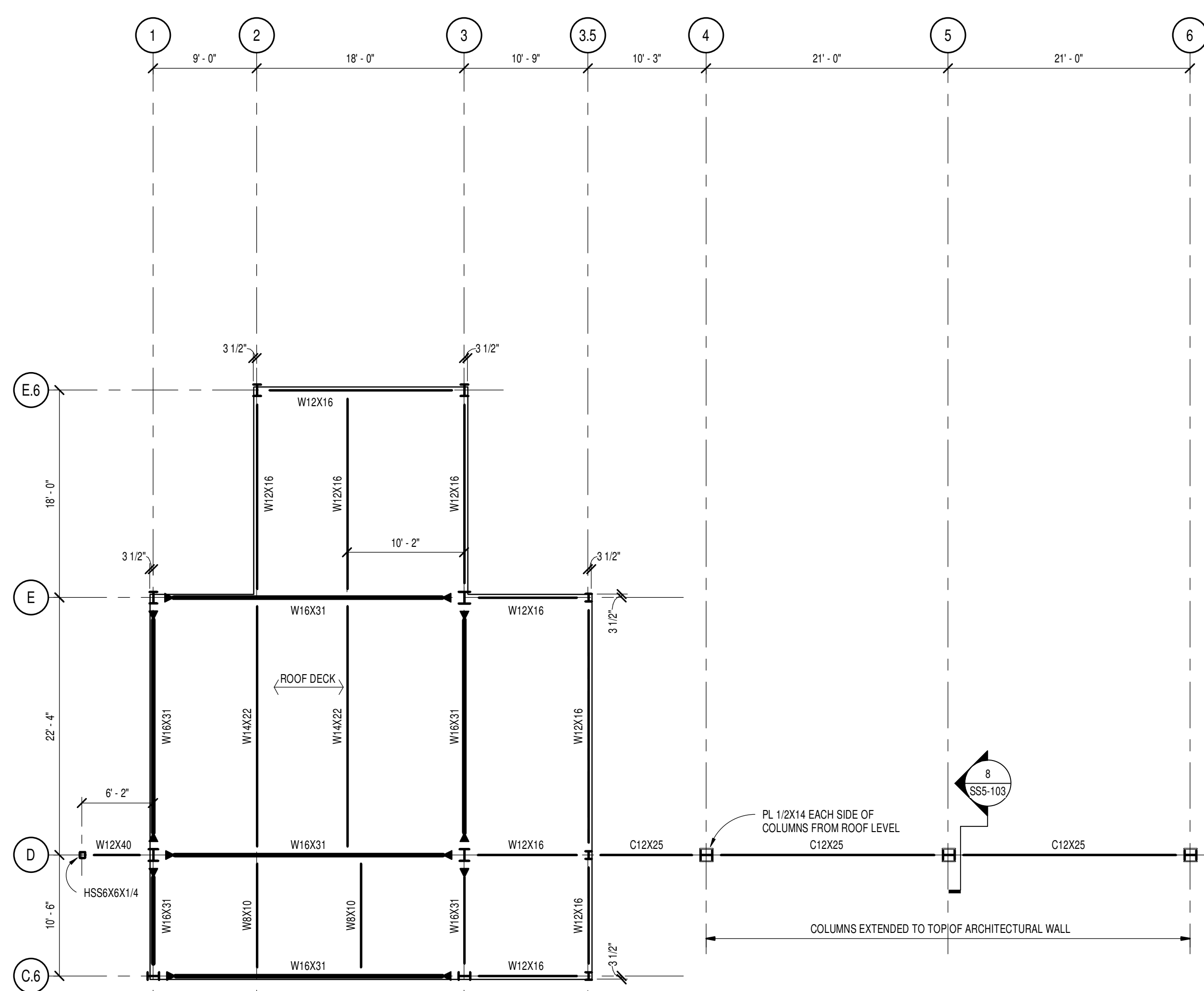
- PLAN NOTES**
1. TOP OF CONC. SLAB EL. = 121'9.58"
 2. FLOOR CONSTRUCTION SHALL BE 2" X 18 GA. COMPOSITE STEEL DECK WITH 3-1/4" LIGHTWEIGHT CONCRETE TOPPING REINFORCED WITH #16 W2.1XW2.1WVF LOCATED 1" FROM TOP OF SLAB. TOTAL THICKNESS OF SLAB = 5-1/4".
 3. TOP OF STEEL BEAMS EL. = 5-1/4" FROM TOP OF CONC. SLAB AS NOTED OR INDICATED ON PLAN.
 4. REFER TO STEEL FRAMING SYMBOL LEGEND, SHEET SSS-101.
 5. VERTICAL SUPPORT STEEL FOR ELEVATOR RAIL ATTACHMENT IN ACCORDANCE WITH ASME A17.1. COORDINATE WITH ELEVATOR MANUFACTURER.
 6. * INDICATES TO COORDINATE WITH HELIPORT DRAWINGS

KEY PLAN

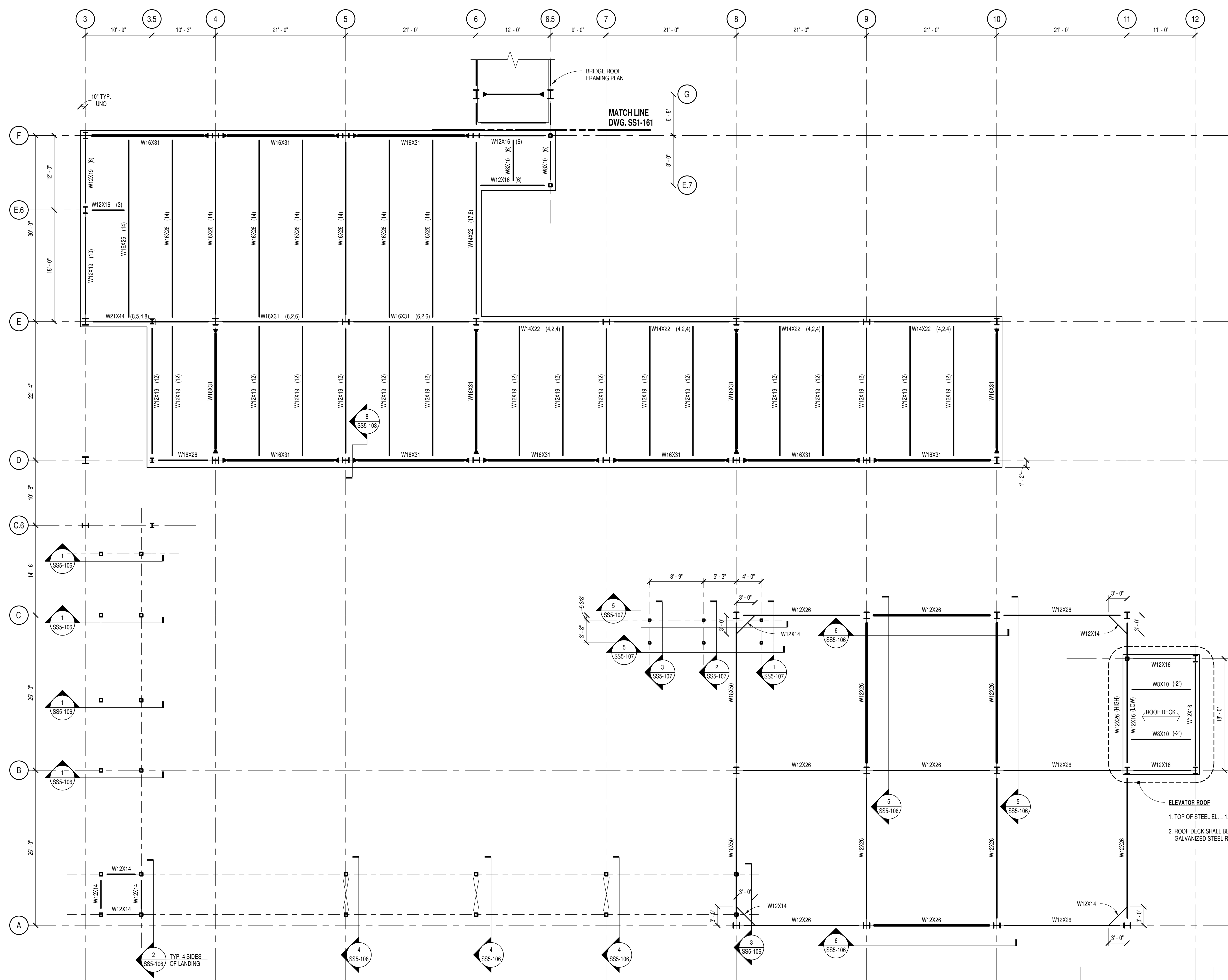
FOR CONSTRUCTION
FULLY SPRINKLERED

CONSULTANTS: HDR HDR Architecture, Inc. 1101 King Street Suite 400 Alexandria, Virginia 22314-2944 703.518.8500		ARCHITECT/ENGINEERS: ASTORINO ARCHITECTURE ENGINEERING INTERIOR DESIGN DESIGN/BUILD 227 First Pitt Boulevard Pittsburgh, Pennsylvania 15222 TEL 412 765 1700 FAX 412 765 1711 www.astorino.com		Drawing Title ROOF FRAMING PLAN Approved: Project Director		Project Title VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA, RESEARCH OFFICE BLDG. Location VAPHS UNIVERSITY DRIVE Date 08-18-2010 Checked JHC Drawn RAW		Project Number 646CA2500R Building Number 30 Drawing Number SS1-141 Dwg. of		Office of Facilities Management Department of Veterans Affairs	
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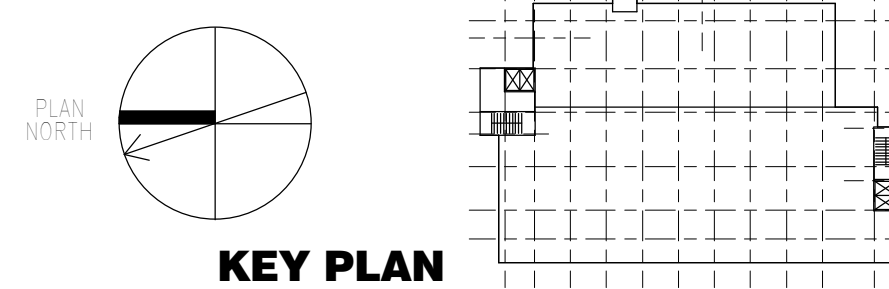
three eighths inch = one foot
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two inches = one foot
three inches = one foot
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seven inches = one foot
eight inches = one foot
nine inches = one foot
ten inches = one foot
eleven inches = one foot
twelve inches = one foot
thirteen inches = one foot
fourteen inches = one foot
fifteen inches = one foot
sixteen inches = one foot
seventeen inches = one foot
eighteen inches = one foot
nineteen inches = one foot
twenty inches = one foot
twenty one inches = one foot
twenty two inches = one foot
twenty three inches = one foot
twenty four inches = one foot
twenty five inches = one foot
twenty six inches = one foot
twenty seven inches = one foot
twenty eight inches = one foot
twenty nine inches = one foot
thirty inches = one foot
thirty one inches = one foot
thirty two inches = one foot
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fifty inches = one foot
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fifty two inches = one foot
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sixty seven inches = one foot
sixty eight inches = one foot
sixty nine inches = one foot
seventy inches = one foot
seventy one inches = one foot
seventy two inches = one foot
seventy three inches = one foot
seventy four inches = one foot
seventy five inches = one foot
seventy six inches = one foot
seventy seven inches = one foot
seventy eight inches = one foot
seventy nine inches = one foot
eighty inches = one foot
eighty one inches = one foot
eighty two inches = one foot
eighty three inches = one foot
eighty four inches = one foot
eighty five inches = one foot
eighty six inches = one foot
eighty seven inches = one foot
eighty eight inches = one foot
eighty nine inches = one foot
ninety inches = one foot
ninety one inches = one foot
ninety two inches = one foot
ninety three inches = one foot
ninety four inches = one foot
ninety five inches = one foot
ninety six inches = one foot
ninety seven inches = one foot
ninety eight inches = one foot
ninety nine inches = one foot
one hundred inches = one foot



2 STAIR ROOF FRAMING PLAN
1/8" = 1'-0"
PLAN NOTES
1. TOP OF STEEL EL. = 123'-3 5/8"
2. ROOF DECK SHALL BE 3" X 20 GA. GALVANIZED STEEL ROOF DECK.



1 HIGH ROOF FRAMING PLAN
1/8" = 1'-0"
PLAN NOTES
1. TOP OF CONC. SLAB EL. = 121'6"-6 5/8"
THE SYMBOL INDICATES AN ELEVATION CHANGE FROM THIS TYPICAL ELEVATION.
2. FLOOR CONSTRUCTION SHALL BE 2" X 18 GA. COMPOSITE STEEL DECK WITH 3 1/4" LIGHTWEIGHT CONCRETE TOPPING REINFORCED WITH #6@W2.1XW2.1WVF LOCATED 1" FROM TOP OF SLAB. TOTAL THICKNESS OF SLAB = 5-1/4".
3. TOP OF STEEL BEAMS EL. = 5-1/4" FROM TOP OF CONC. SLAB AS NOTED OR INDICATED ON PLAN.
4. REFER TO STEEL FRAMING SYMBOL LEGEND, SHEET SSS-101.
5. VERTICAL SUPPORT STEEL FOR ELEVATOR RAIL ATTACHMENT IN ACCORDANCE WITH ASME A17.1. COORDINATE WITH ELEVATOR MANUFACTURER.



FOR CONSTRUCTION
FULLY SPRINKLERED

CONSULTANTS: HDR Architecture, Inc. 1101 King Street Suite 400 Alexandria, Virginia 22314-2944 703.518.8500		ARCHITECT/ENGINEERS: ASTORINO 227 First Pitt Boulevard Pittsburgh, Pennsylvania 15222 TEL 412 755 1700 FAX 412 755 1711 www.astorino.com		Drawing Title HIGH ROOF FRAMING PLAN Approved: Project Director		Project Title VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA, RESEARCH OFFICE BLDG. Location VAPHS UNIVERSITY DRIVE Date 08-18-2010 Checked JHC Drawn RAW		Project Number 646CA2500R Building Number 30 Drawing Number SS1-151 Dwg. of		Office of Facilities Management 	
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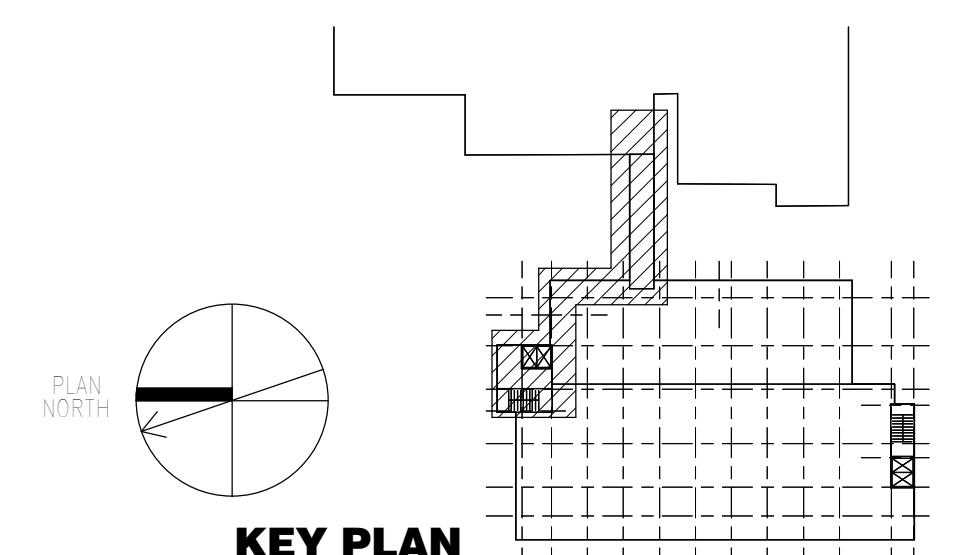


1/8" = 1'-0"

PLAN NOTES

4. TOP OF 05

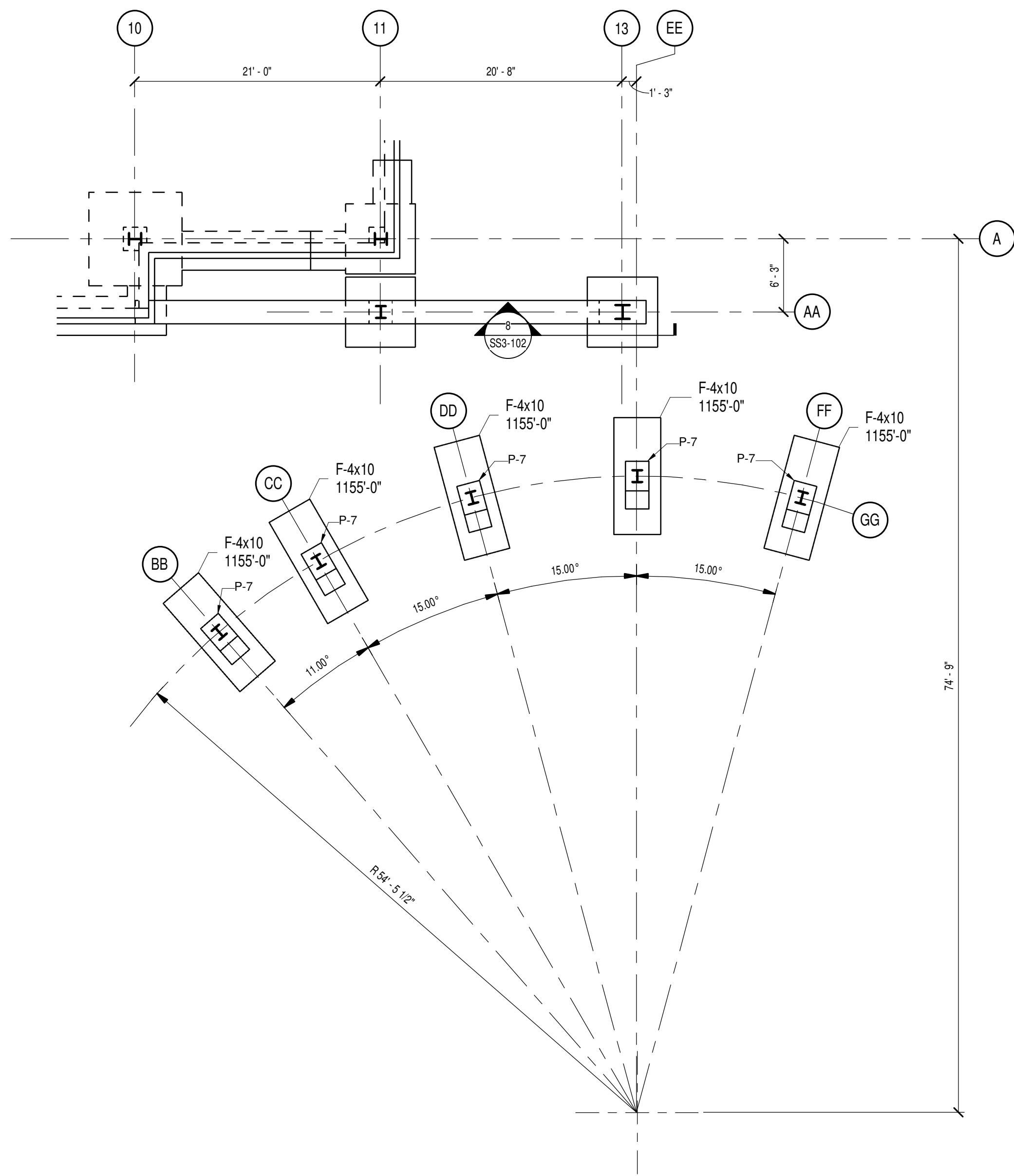
1. TOP OF CONC. SLAB EL. = 1204'-10 3/4"
2. FLOOR CONSTRUCTION SHALL BE 2" X 18 GA. COMPOSITE STEEL DECK WITH 3-1/4" LIGHTWEIGHT CONCRETE TOPPING REINFORCED WITH 6X6-W2.1XW2.1WWF LOCATED 1" FROM TOP OF SLAB.
TOTAL THICKNESS OF SLAB = 5-1/4".
3. TOP OF STEEL BEAMS EL. = -5-1/4" FROM TOP OF CONC. SLAB AS NOTED OR INDICATED ON PLAN.
4. REFER TO STEEL FRAMING SYMBOL LEGEND, SHEET SSS-101.

 $1/8" = 1'-0"$ 

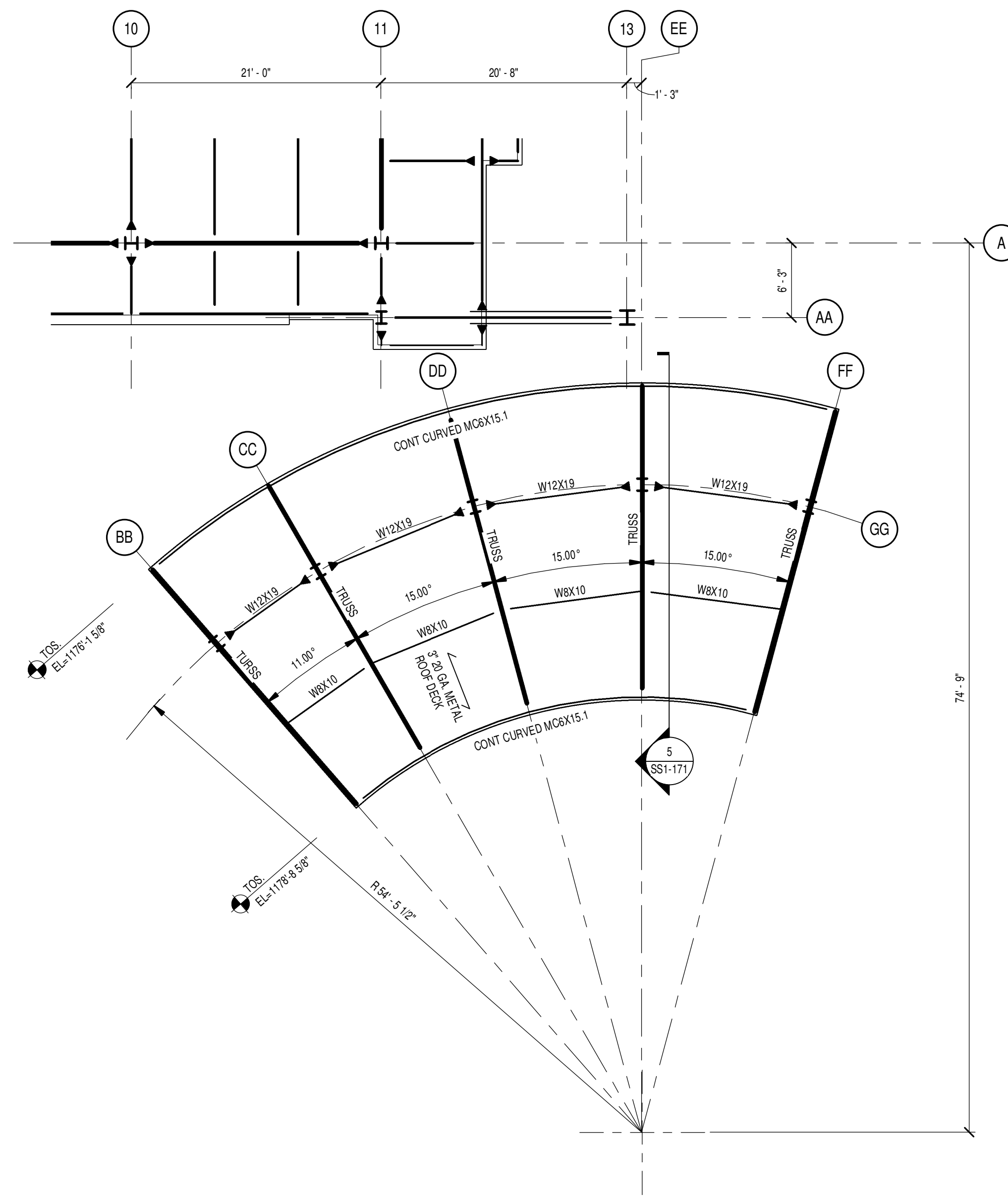
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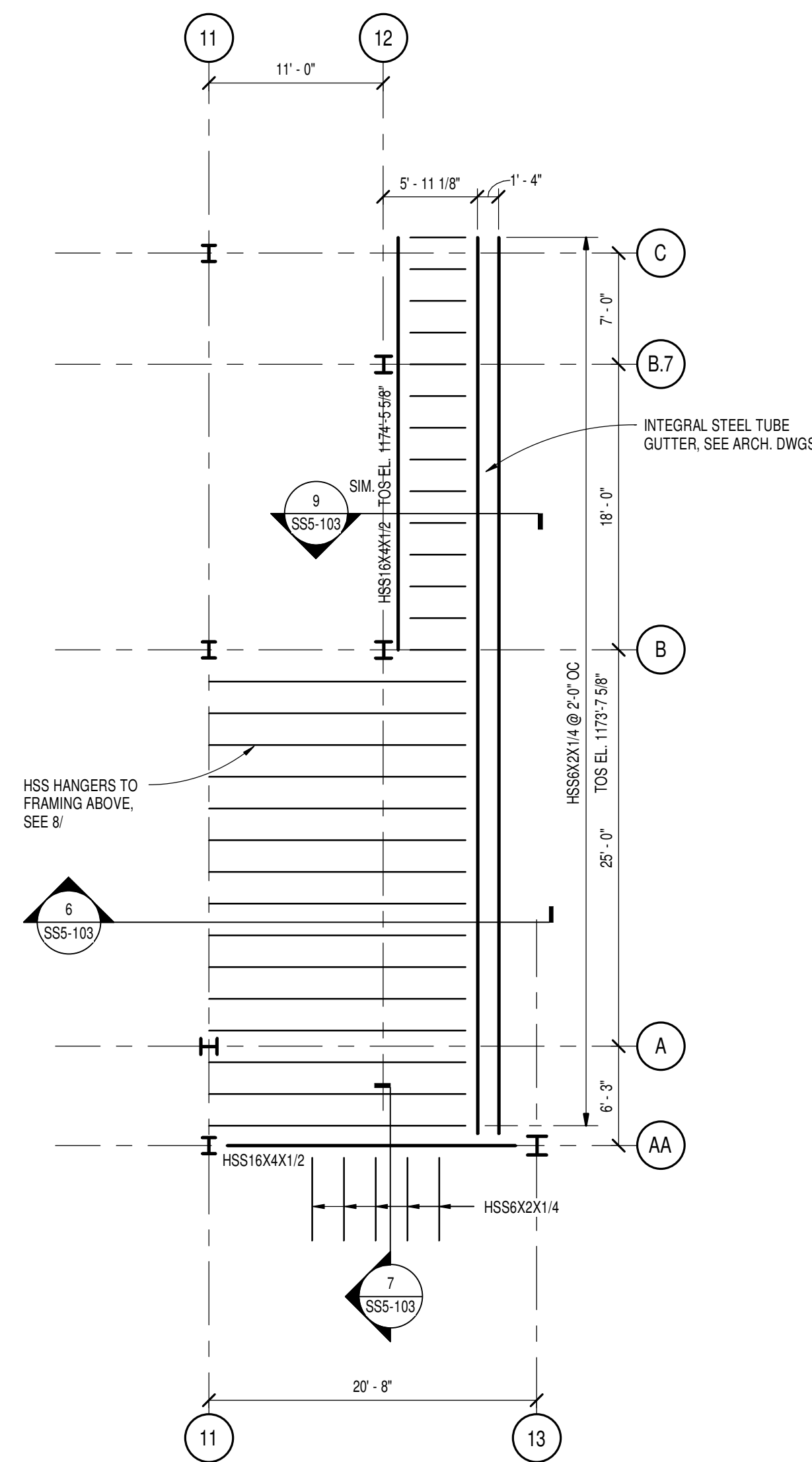
three inches = one foot
1
0
6
one and one half inches = one foot
2
0
6
one inch = one foot
2
0
6
three quarters inch = one foot
4
0
6
one half inch = one foot
4
0
6
three eighths inch = one foot
8
0
6
one quarter inch = one foot
4
0
6
one eighth inch = one foot
16
0
6
one eighth inch = one foot



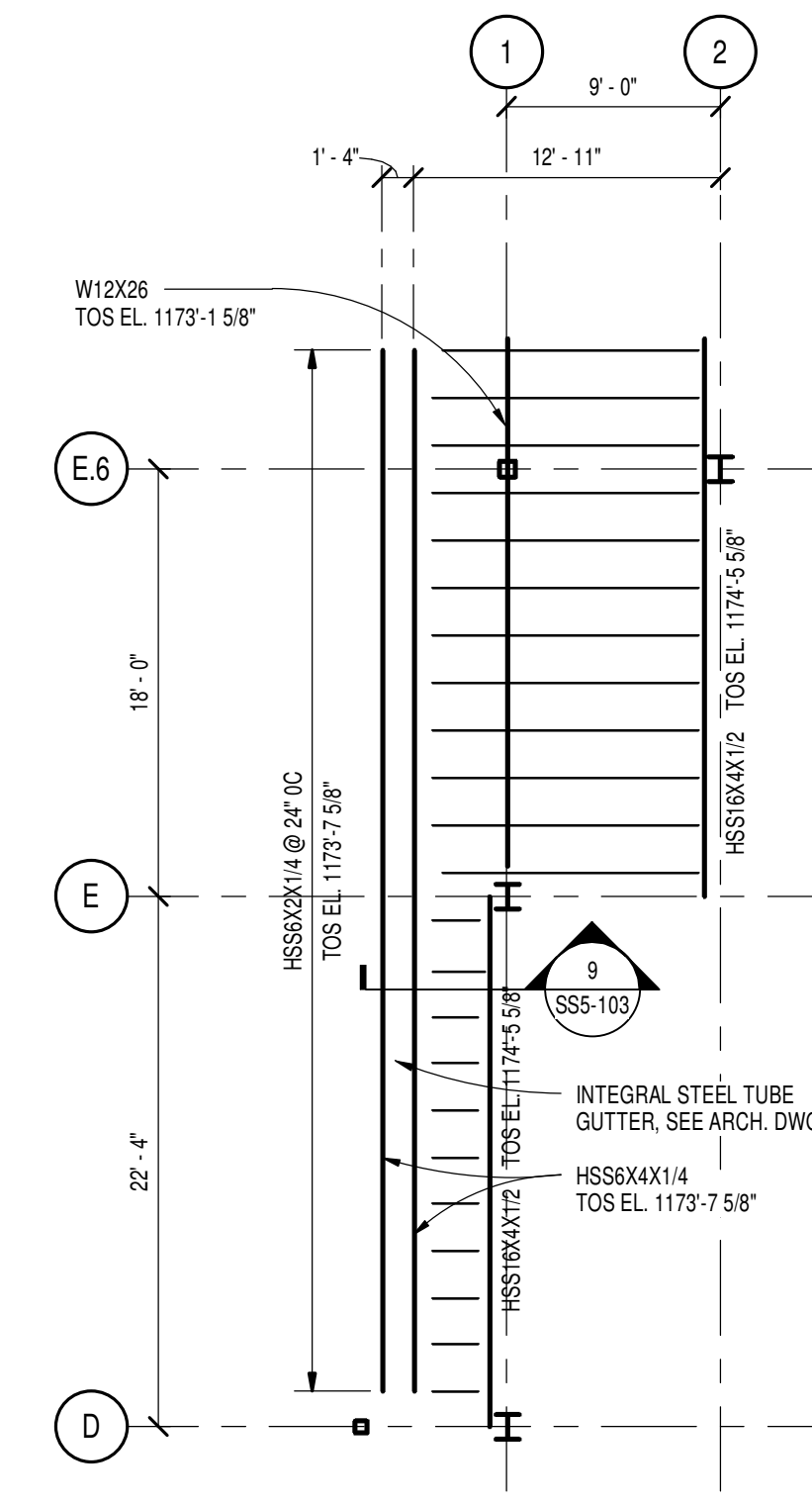
1 FOUNDATION PLAN
1/8" = 1'-0"



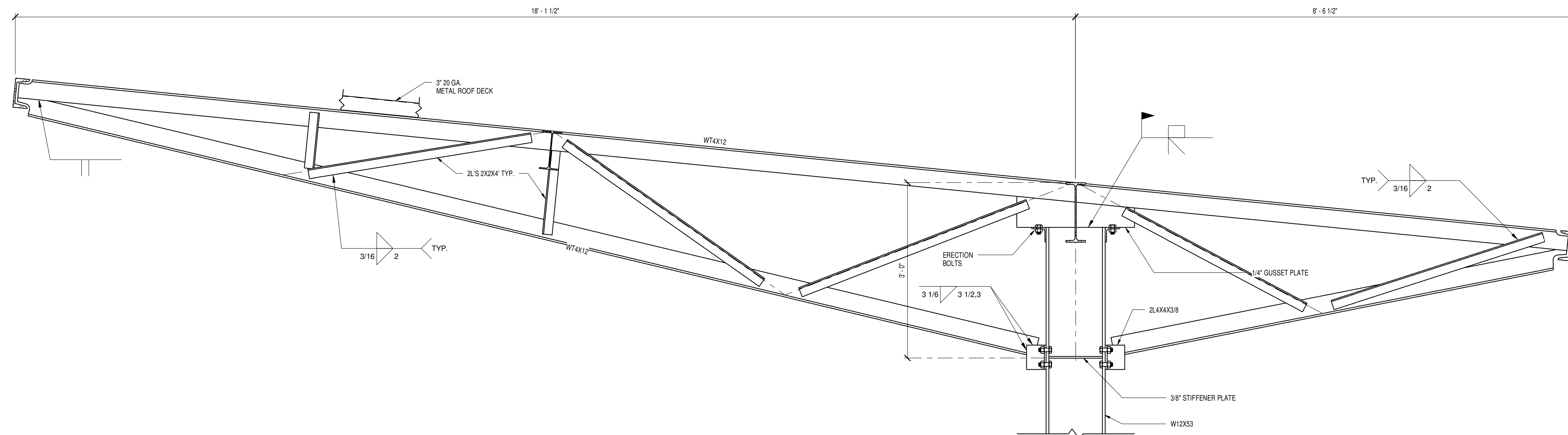
2 ROOF FRAMING PLAN
1/8" = 1'-0"



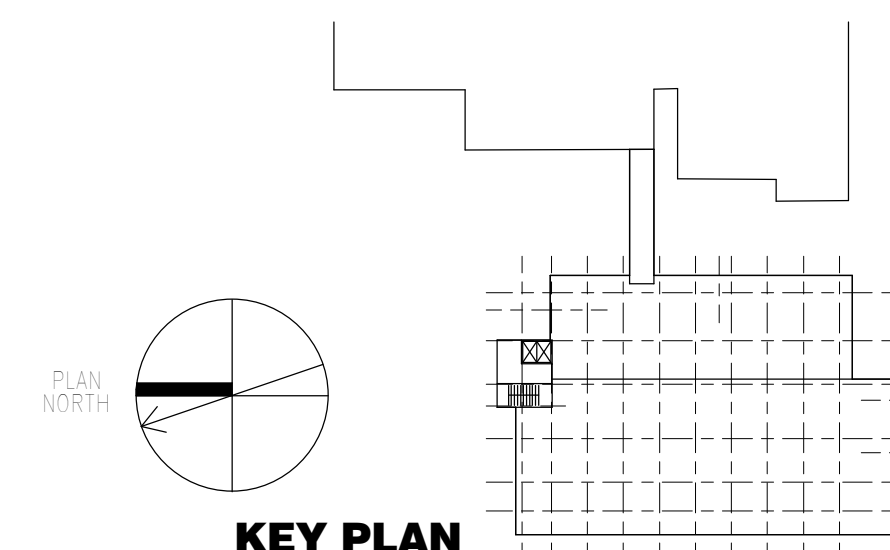
3 Southeast Canopy
1/8" = 1'-0"



4 Northwest Canopy
1/8" = 1'-0"



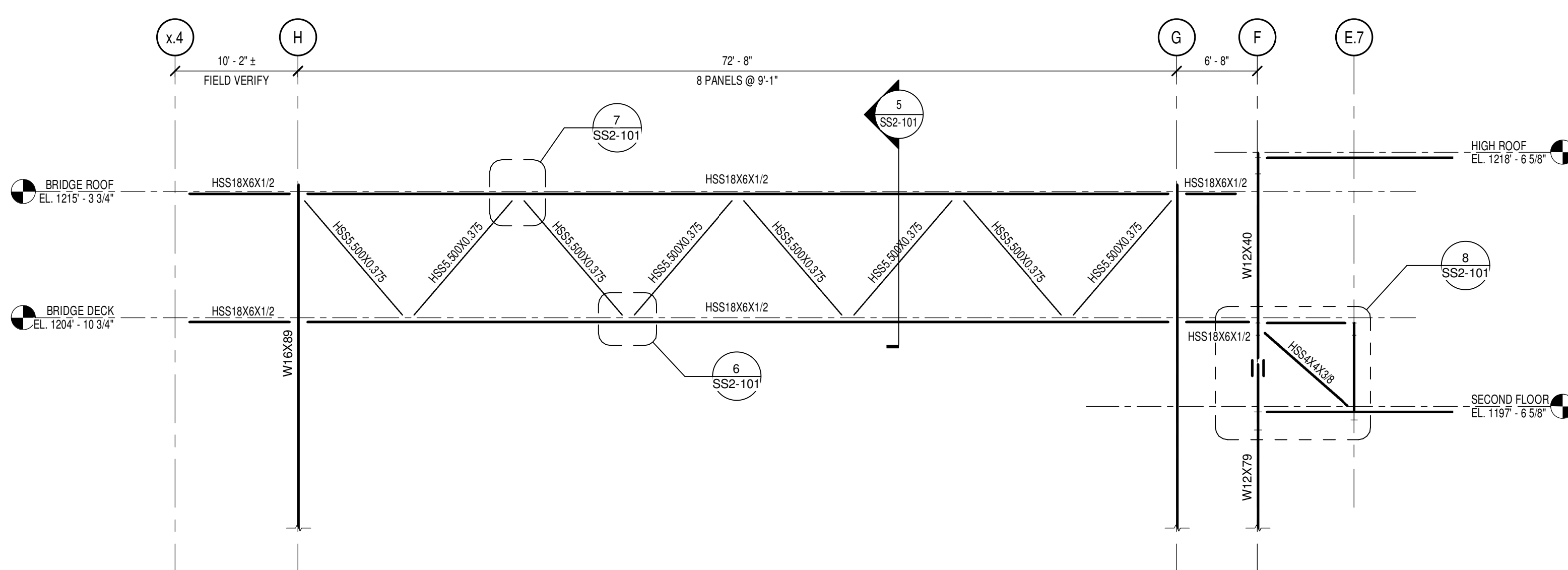
5 SECTION
1" = 1'-0"



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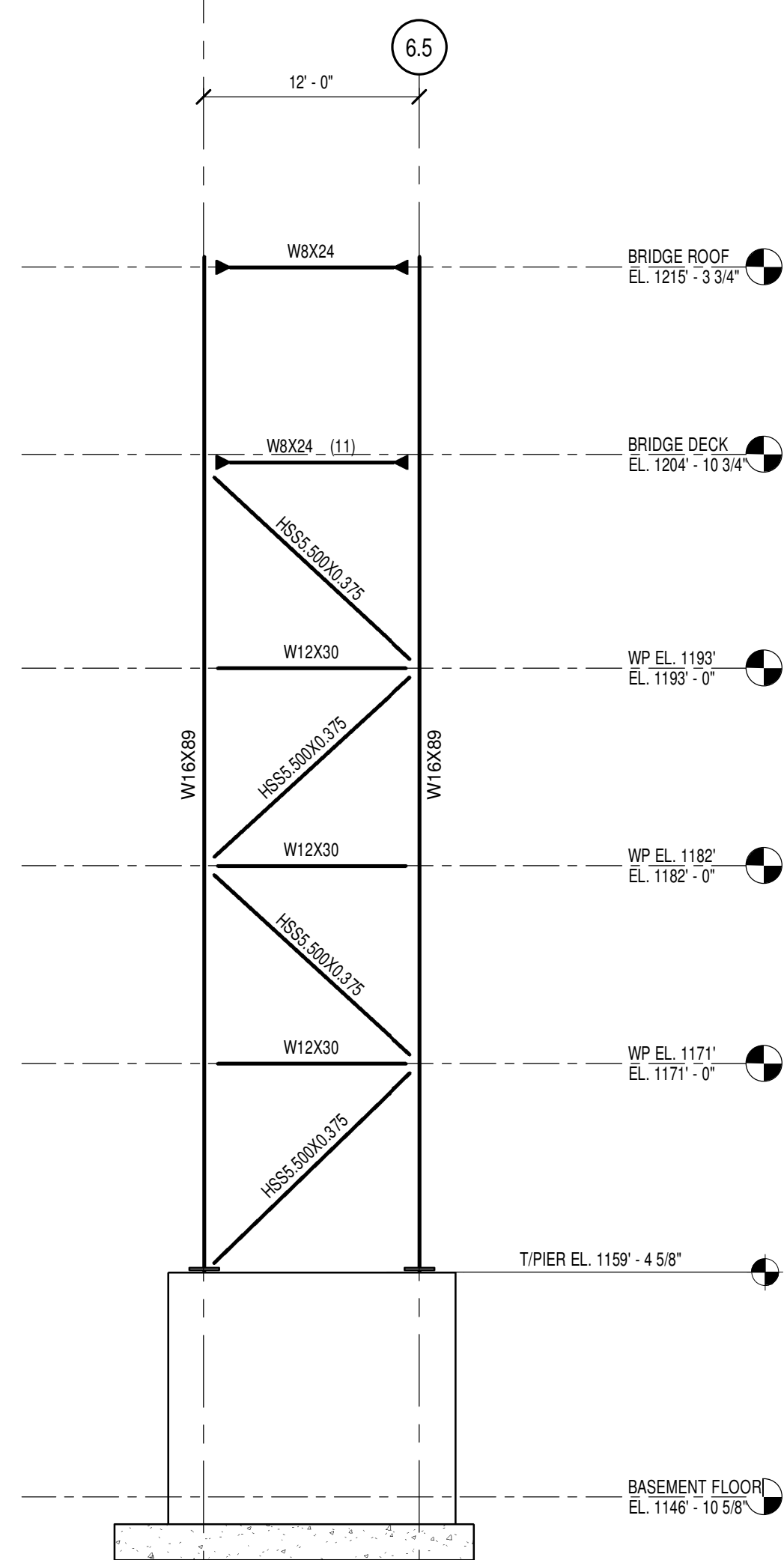
CONSULTANTS: HDR HDR Architecture, Inc. 1101 King Street Suite 400 Alexandria, Virginia 22314-2944 703.518.8500		ARCHITECT/ENGINEERS: ASTORINO ARCHITECTURE ENGINEERING INTERIOR DESIGN DESIGN/BUILD 221 First Pitt Boulevard Pittsburgh, Pennsylvania 15222 TEL: 412.765.1700 FAX: 412.765.1711 www.astorino.com		Drawing Title DROP-OFF CANOPY PLANS		Project Title VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA, RESEARCH OFFICE BLDG.		Project Number 646CA2500R		Office of Facilities Management	
Revisions:		Date		Approved: Project Director		Location VAPHS UNIVERSITY DRIVE		Building Number 30		Drawing Number SS1-171	
						Date 08-18-2010		Checked JHC		Drawn RAW	
								Dwg. of		Department of Veterans Affairs	

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

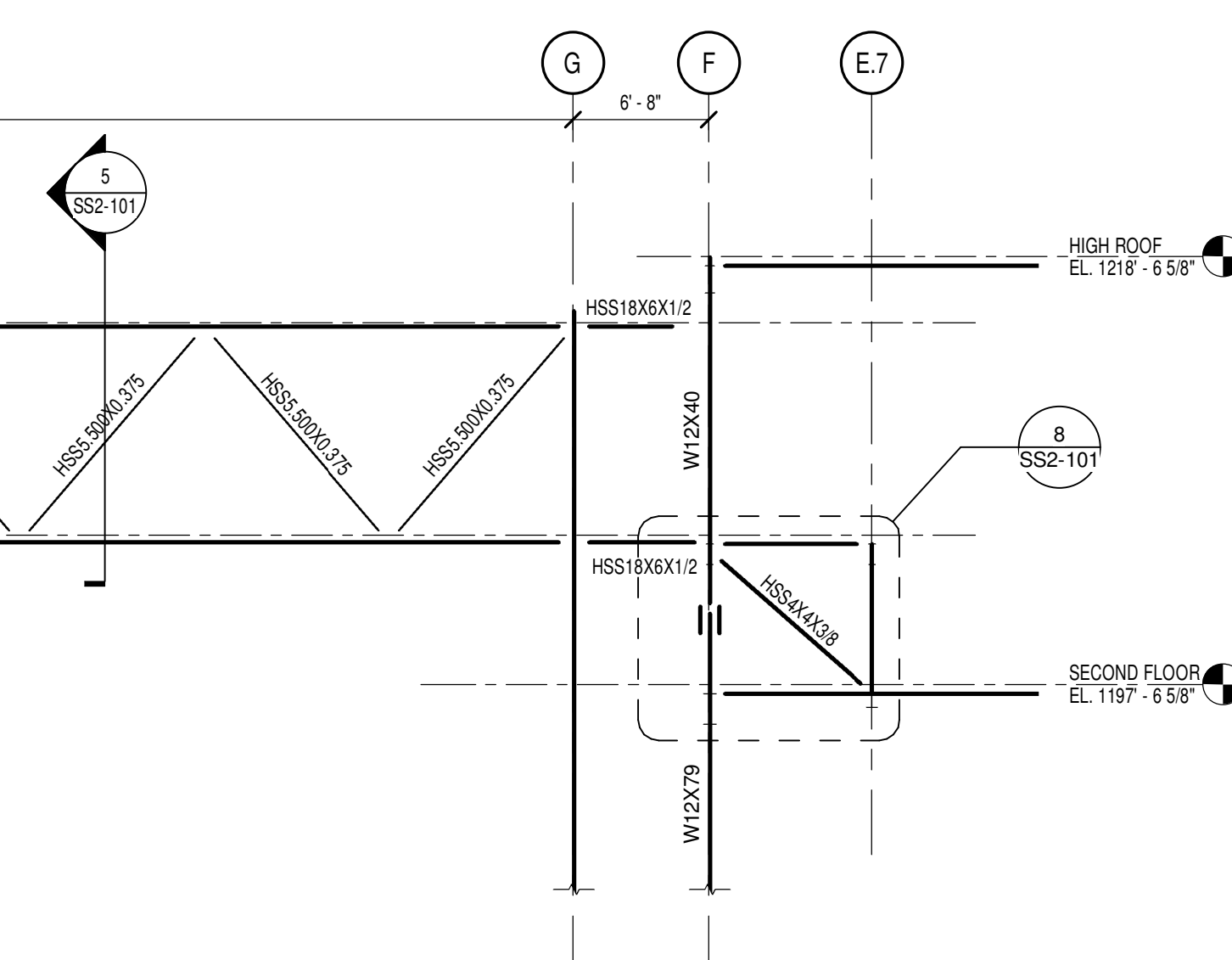


1 BRIDGE ELEVATION - GRID LINE 6

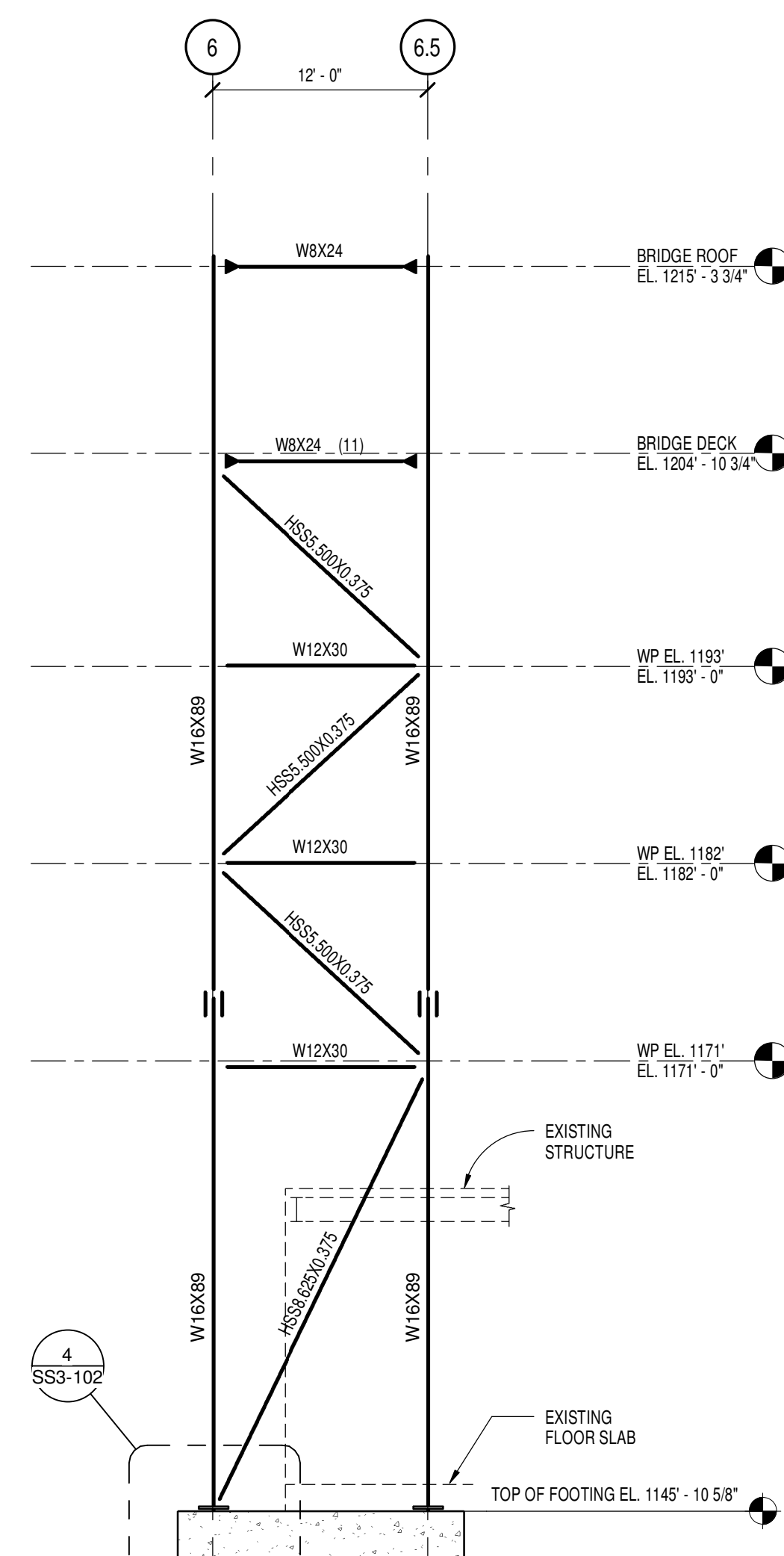
- 1/8" = 1'-0"
- NOTES
1. TOLERANCES FOR EXPOSED STRUCTURAL STEEL FOR THE BRIDGE SHALL COMPLY WITH SECTION 10 OF AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDING AND BRIDGES, FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL.
 2. REFER TO SPECIFICATION 09-91-00 FOR FINISHES OF EXPOSED GALVANIZED METAL.
 3. BRIDGE TRUSS PIPE MEMBER CONNECTIONS SHALL BE DESIGNED FOR AN ULTIMATE TENSION OR COMPRESSION CAPACITY OF 77.0 KIPS



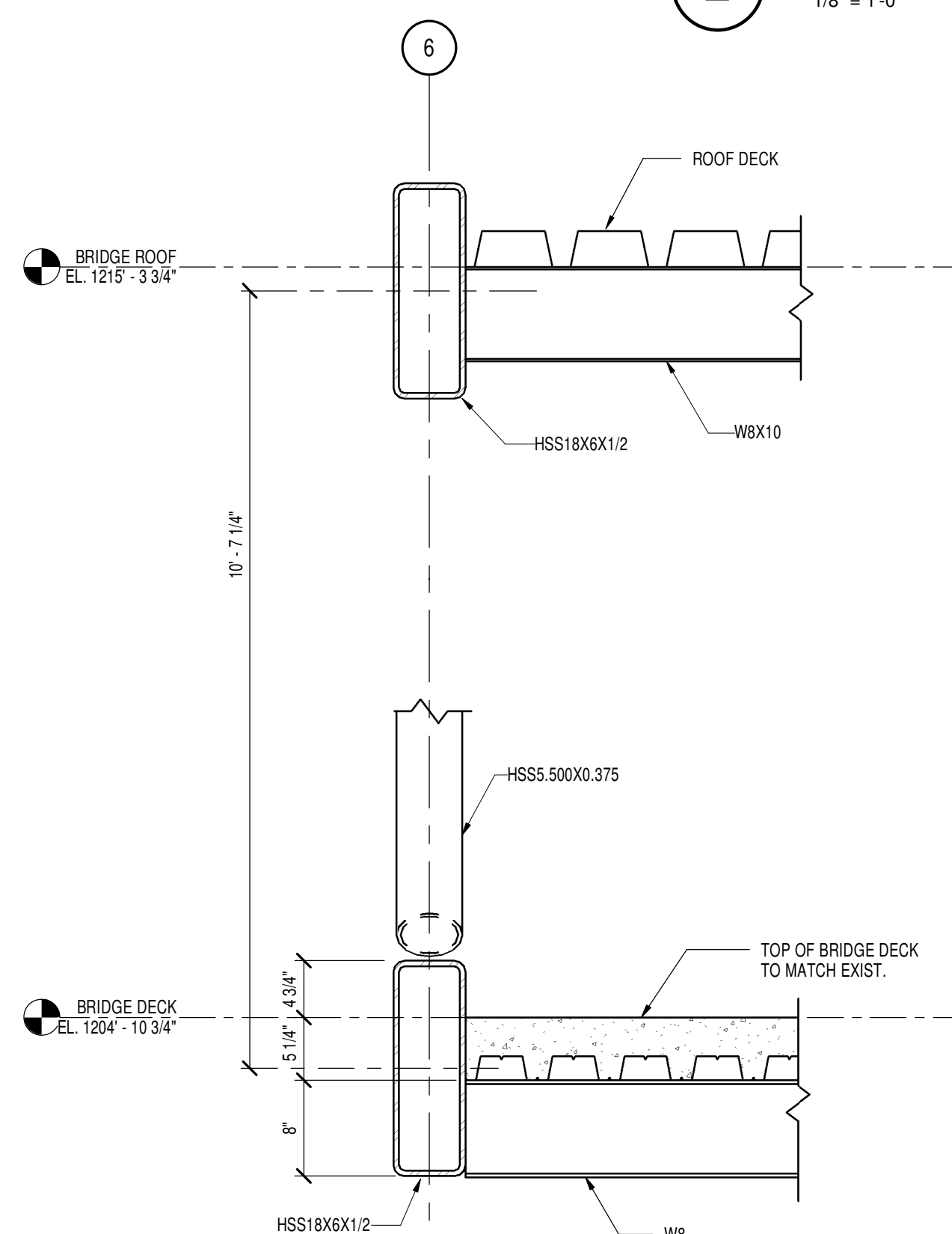
3 BRIDGE SUPPORT ELEVATION - GRID LINE G



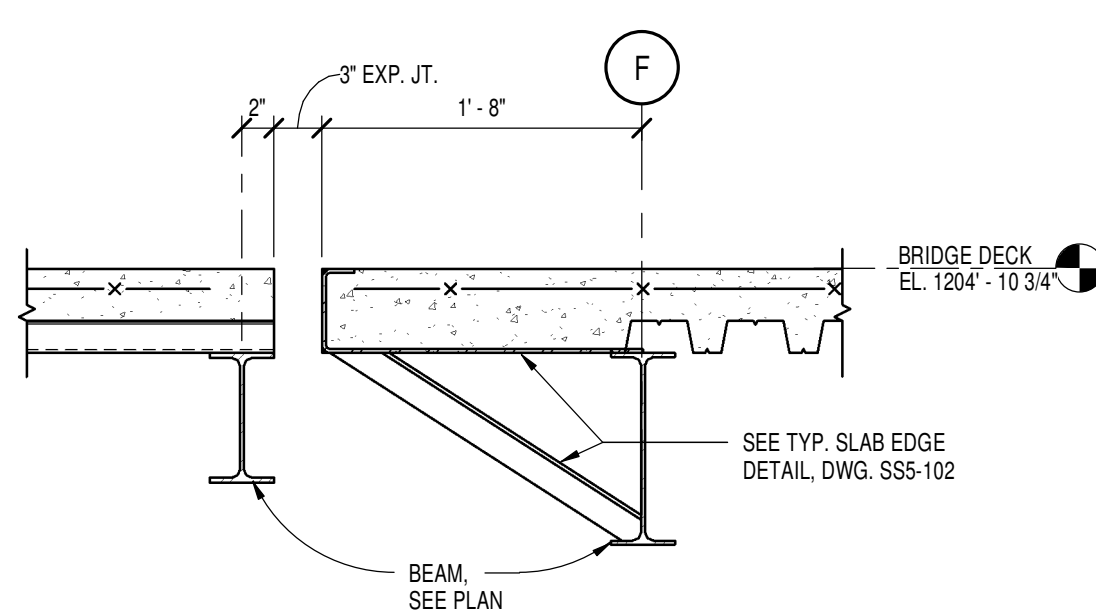
2 BRIDGE ELEVATION - GRID LINE 6.5



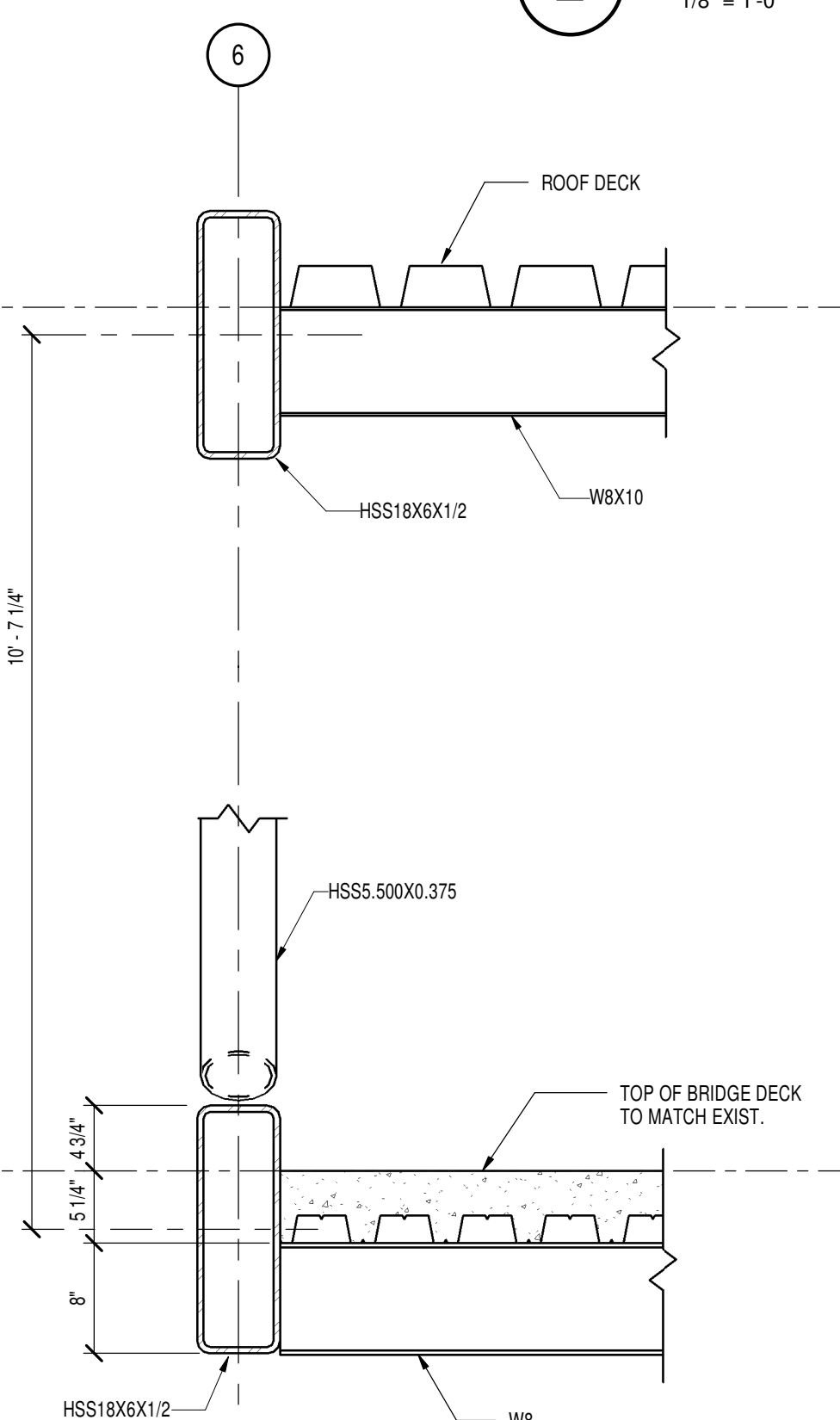
4 BRIDGE SUPPORT ELEVATION - GRID LINE H



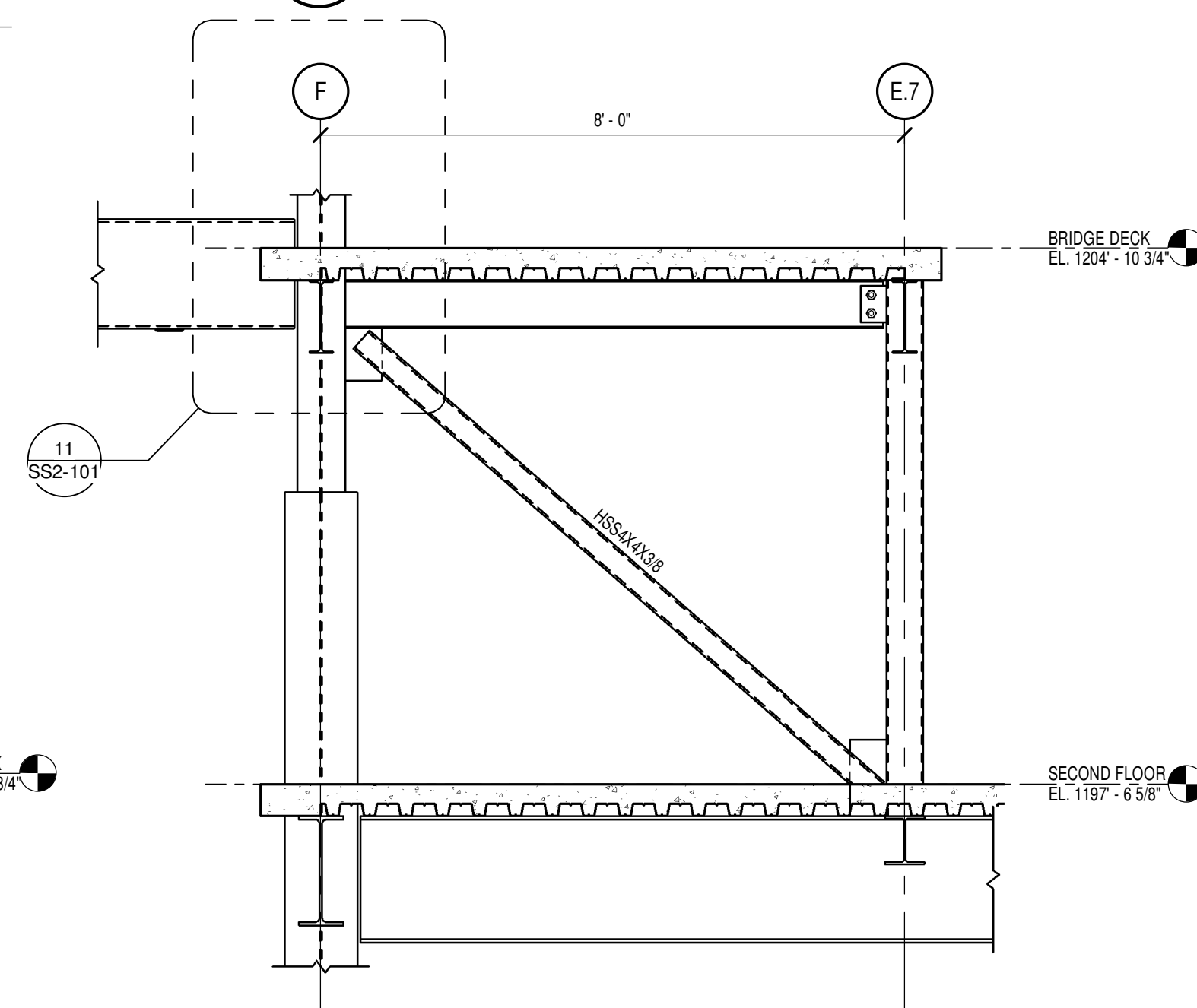
5 SECTION



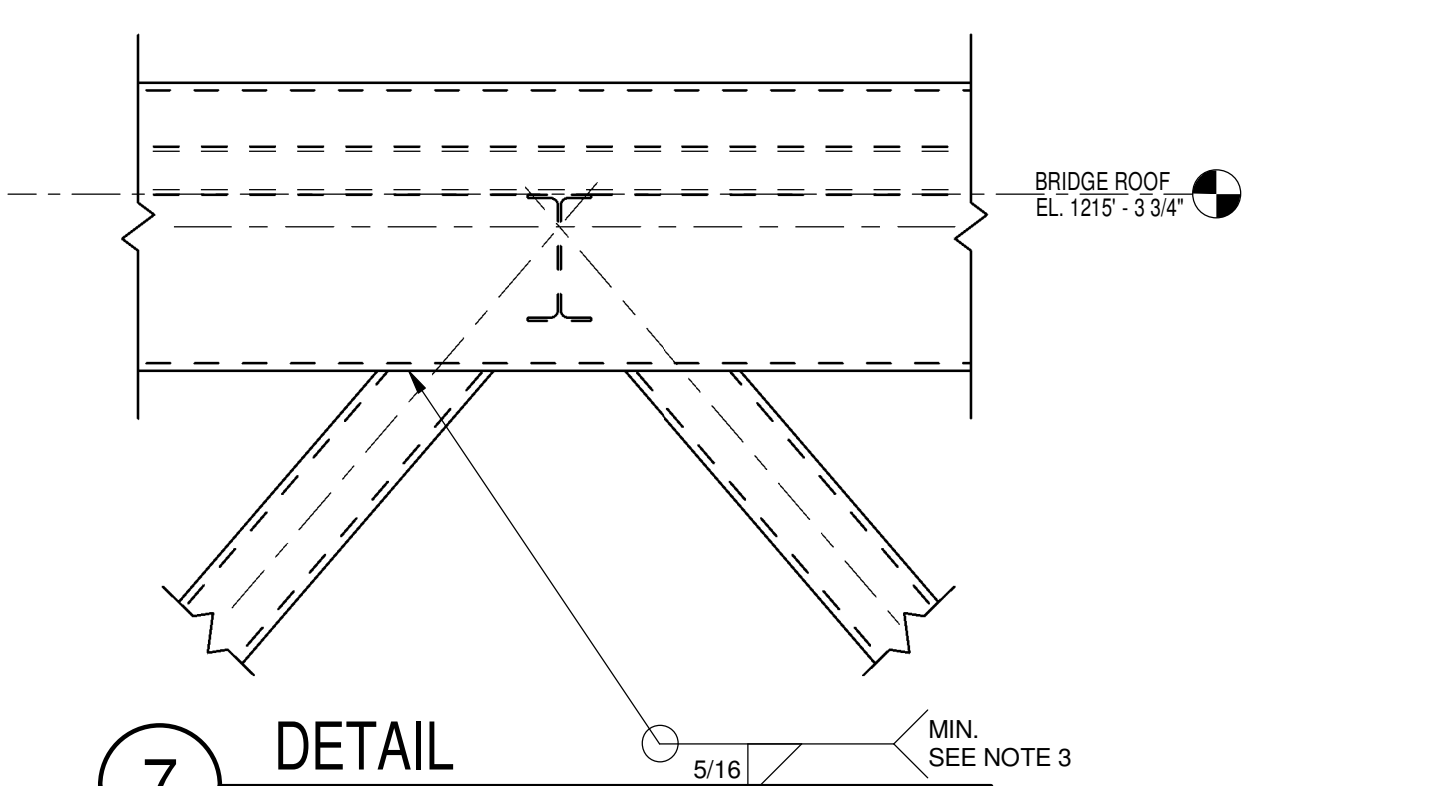
10 SECTION



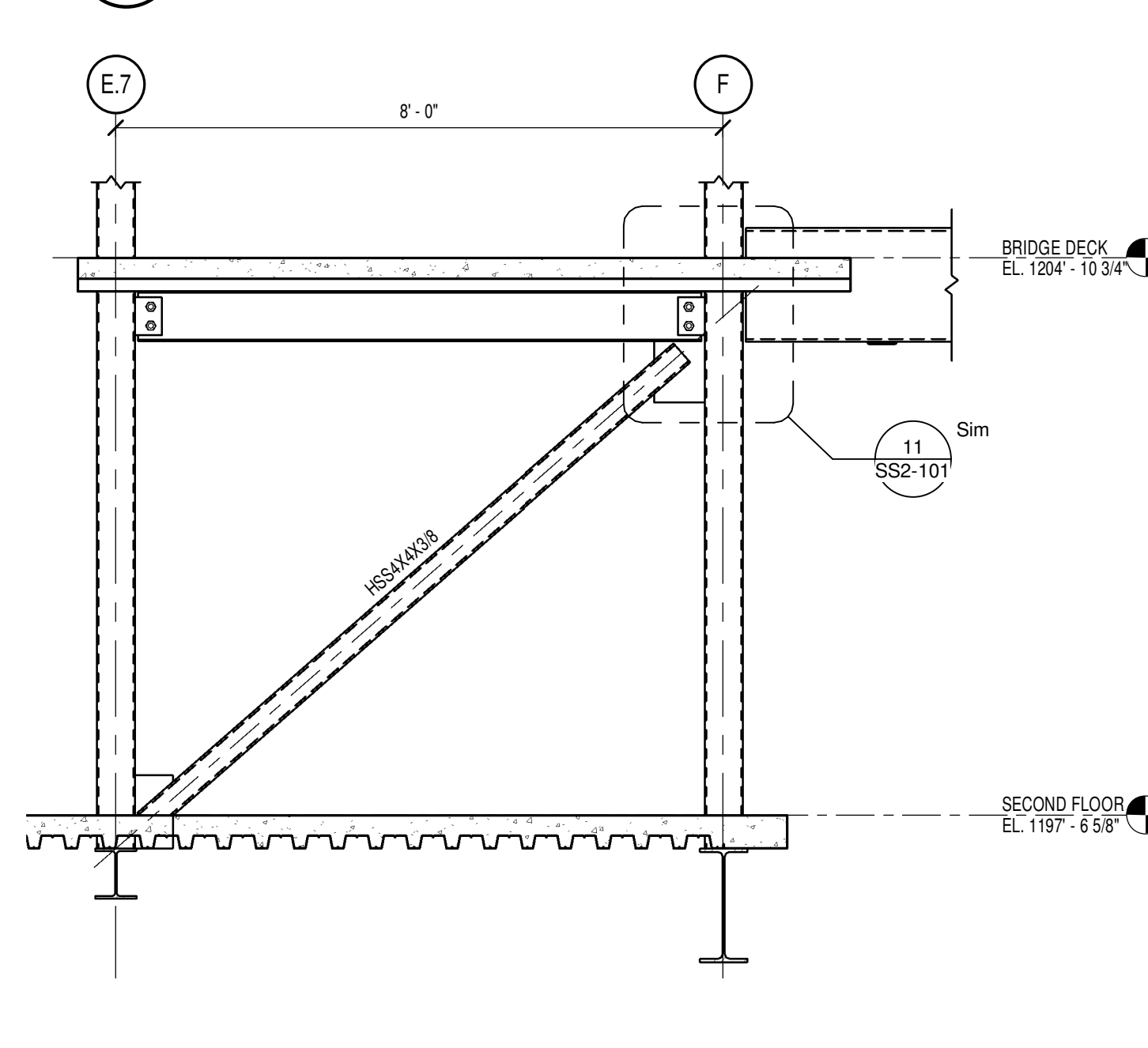
6 DETAIL



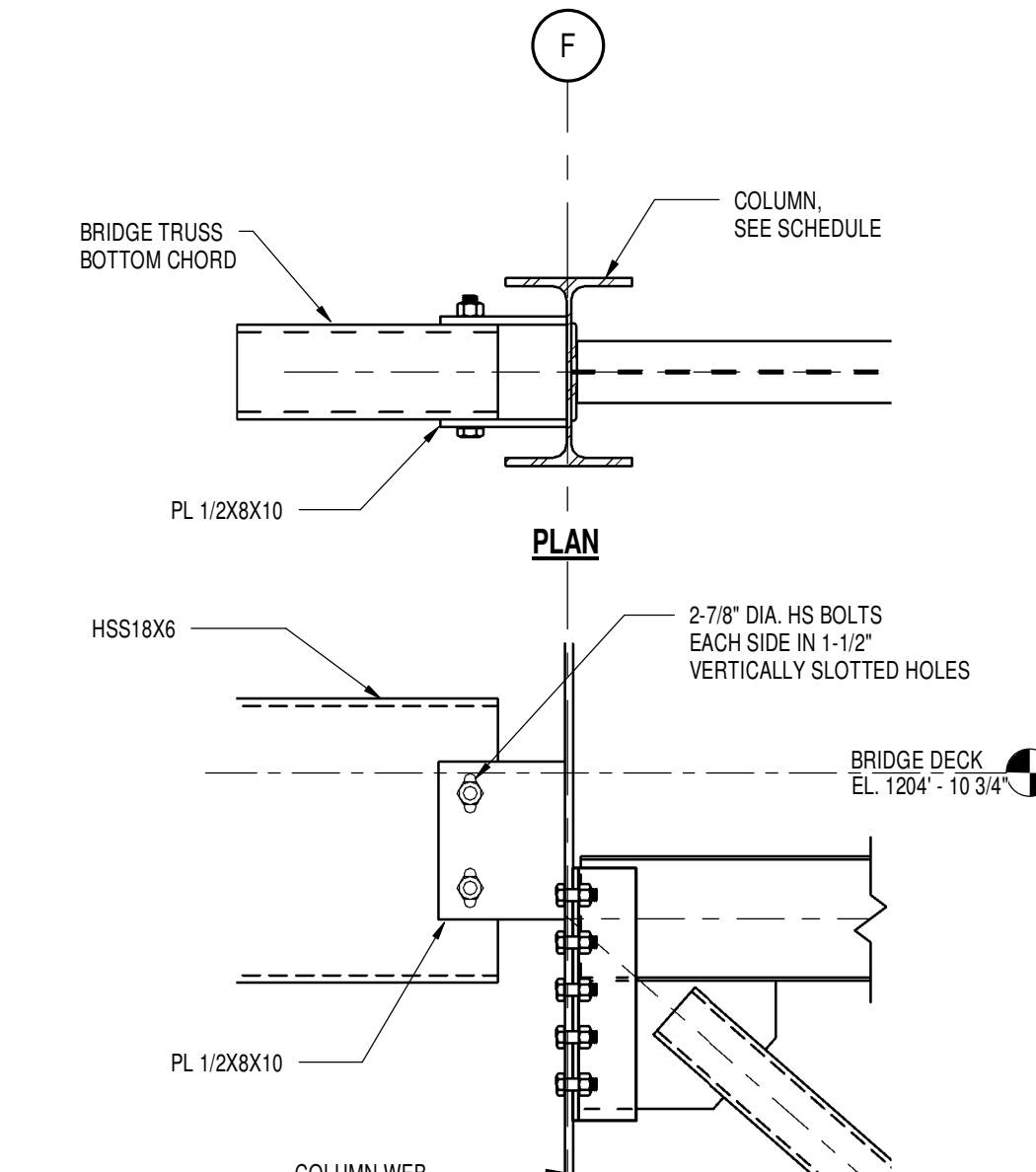
8 DETAIL



7 DETAIL



9 DETAIL

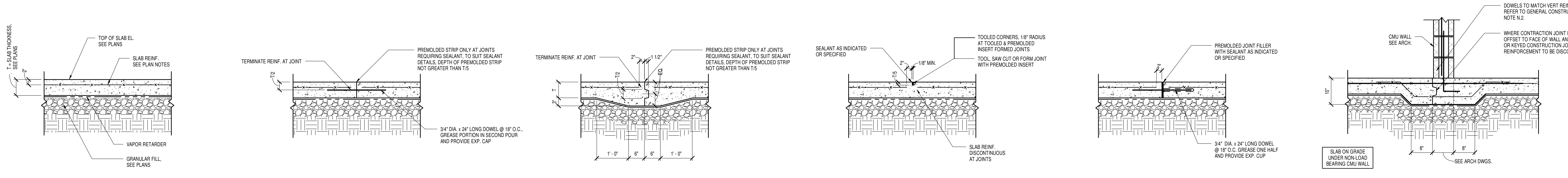


11 DETAIL

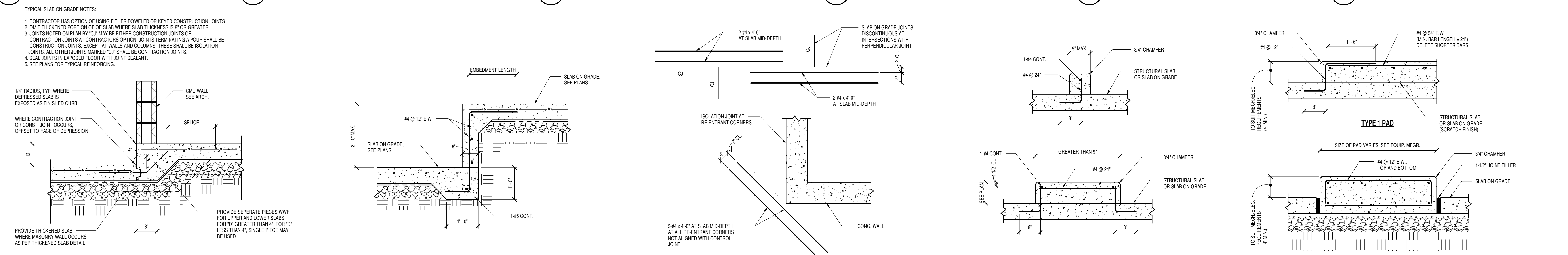
FOR CONSTRUCTION
FULLY SPRINKLERED

CONSULTANTS: HDR HDRArchitecture, Inc. 1101 King Street Suite 400 Alexandria, Virginia 22314-2944 703.518.8500		ARCHITECT/ENGINEERS: ASTORINO ARCHITECTURE ENGINEERING INTERIOR DESIGN DESIGN/BUILD 223 First Pitt Boulevard Pittsburgh, Pennsylvania 15222 TEL: 412.765.1700 FAX: 412.765.1711 www.astorino.com		BRIDGE ELEVATIONS AND SECTIONS Approved: Project Director		VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA, RESEARCH OFFICE BLDG. Location VAPHS UNIVERSITY DRIVE Date 08-18-2010 Checked JHC Drawn RAW		646CA2500R Building Number 30 SS2-101 Dwg. of		Office of Facilities Management Department of Veterans Affairs	
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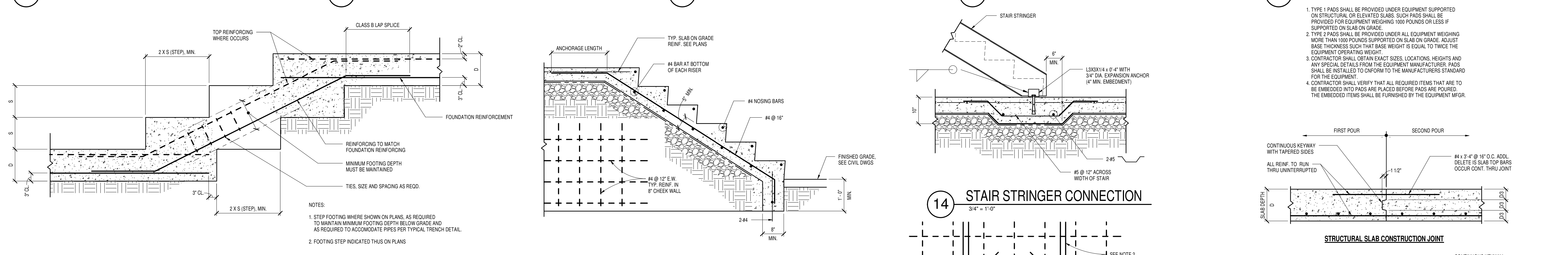
three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



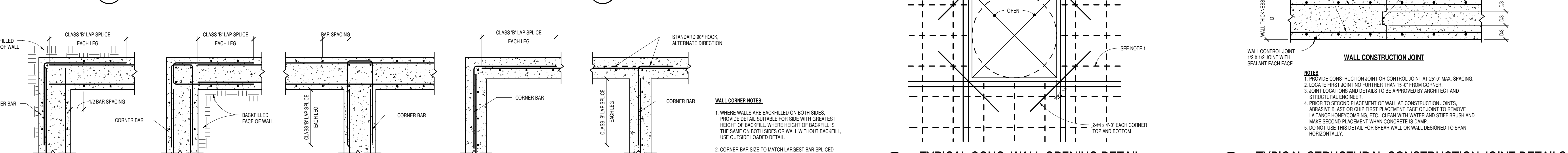
1 TYPICAL SECTION 3/4" = 1'-0"
2 CONSTRUCTION JOINT - DOWELED (CJ) 3/4" = 1'-0"
3 CONSTRUCTION JOINT - KEYED (CJ) 3/4" = 1'-0"
4 CONTRACTION JOINT (CJ) 3/4" = 1'-0"
5 EXPANSION JOINT (EJ) 3/4" = 1'-0"
6 THICKENED SLAB UNDER CMU WALL 3/4" = 1'-0"



7 DEPRESSED SLAB ("D" LESS THAN 8") 3/4" = 1'-0"
8 DEPRESSED SLAB ("D" GREATER THAN 8") 3/4" = 1'-0"
9 DETAIL AT JOINT INTERSECTIONS 3/4" = 1'-0"
10 TYPICAL CONCRETE CURB DETAILS 3/4" = 1'-0"
11 TYPICAL CONCRETE PAD DETAILS 3/4" = 1'-0"



12 TYPICAL STEPPED FOOTING DETAIL 3/4" = 1'-0"
13 TYPICAL STAIR ON GRADE DETAIL 3/4" = 1'-0"
14 STAIR STRINGER CONNECTION 3/4" = 1'-0"



16 TYPICAL WALL CORNER AND INTERSECTION DETAILS 3/4" = 1'-0"
17 TYPICAL CONC. WALL OPENING DETAILS 1/2" = 1'-0"
18 TYPICAL STRUCTURAL CONSTRUCTION JOINT DETAILS 3/4" = 1'-0"

16 TYPICAL WALL CORNER AND INTERSECTION DETAILS 3/4" = 1'-0"

CORNER-OUTSIDE LOADED CORNER-INSIDE LOADED T INTERSECTION CORNER-SINGLE CURTAIN T INTERSECTION-SINGLE CURTAIN

17 TYPICAL CONC. WALL OPENING DETAILS 1/2" = 1'-0"

1. HOOK ALL INTERRUPTED BARS AT FACE OF OPENING. 2. ADDITIONAL BARS EQUAL TO 1/2 REINF. AREA INTERRUPTED BY OPENING. SHALL BE PROVIDED EACH SIDE OF OPENING, TOP AND BOTTOM OF SLAB. MIN 2-#4 EACH FACE, OR TOP AND BOTTOM. EACH SIDE SPACE BARS AT 3". 3. FOR OPENINGS LESS THAN OR EQUAL TO 12" SQUARE IN SLABS LESS THAN 6" THICK, OR 14" SQUARE IN SLABS AND WALLS 6" OR MORE IN THICKNESS, OFFSET REINF. TO CLEAR OPENING. NO ADDITIONAL REINF. REQUIRED. 4. IF EDGE OF CONC. OCCURS BEFORE INDICATED BAR EXTENSION PAST OPENING IS OBTAINED, EXTEND BAR FULL AVAILABLE LENGTH AND HOOK.

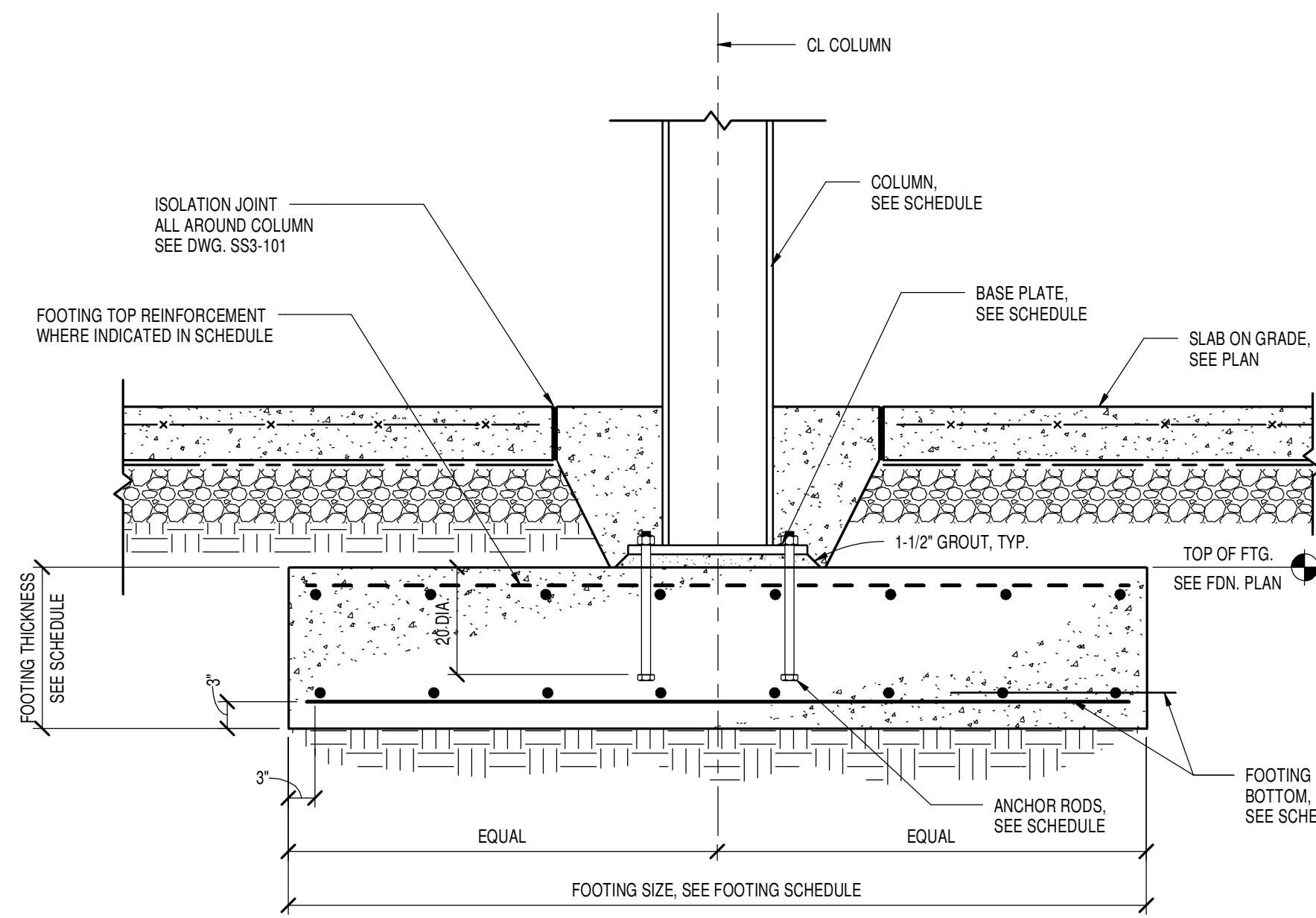
18 TYPICAL STRUCTURAL CONSTRUCTION JOINT DETAILS 3/4" = 1'-0"

STRUCTURAL SLAB CONSTRUCTION JOINT: CONTINUOUS KEYWAY WITH TAPERED SIDES FOR WALLS 8" OR GREATER IN THICKNESS. ALL REINF. TO RUN THRU UNINTERRUPTED. 1-1/2". #4 x 3'-4" @ 16" O.C. ADDL. DELETE IS SLAB TOP BARS OCCUR CONT. THRU JOINT.

WALL CONSTRUCTION JOINT: CONTINUOUS KEYWAY WITH TAPERED SIDES FOR WALLS 8" OR GREATER IN THICKNESS. ALL REINF. TO RUN THRU UNINTERRUPTED. 1-1/2". #4 x 3'-4" @ 16" O.C. ADDL. DELETE IS SLAB TOP BARS OCCUR CONT. THRU JOINT.

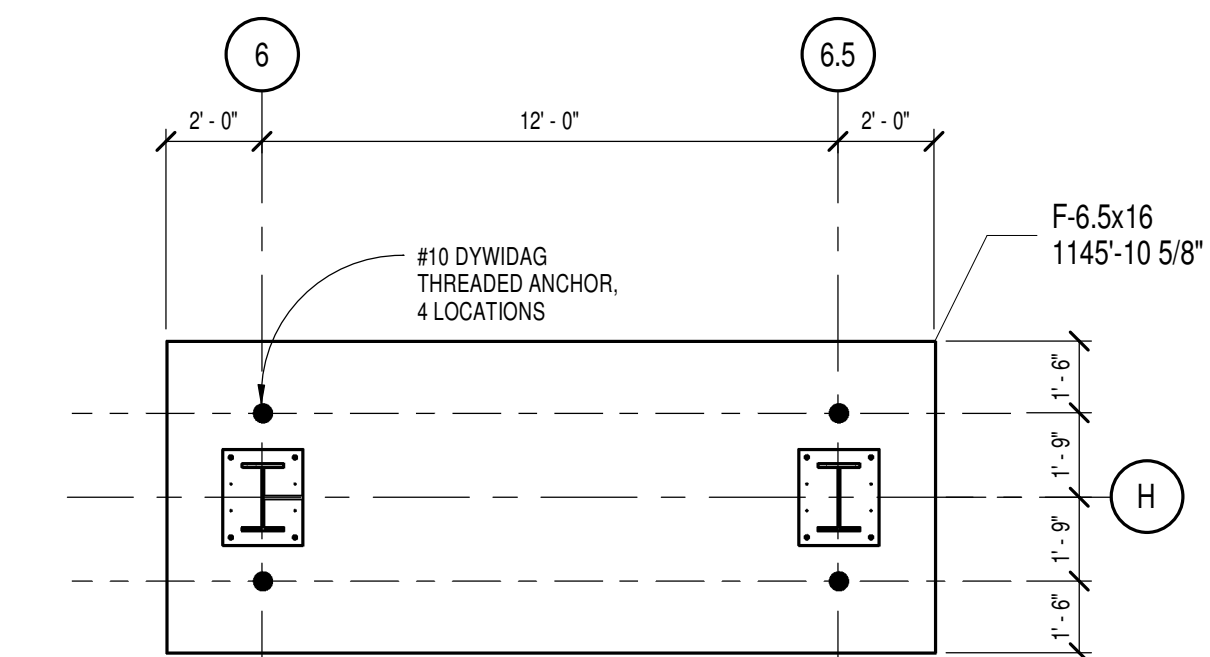
FOR CONSTRUCTION FULLY SPRINKLERED

CONSULTANTS:		ARCHITECT/ENGINEERS:		Drawing Title		Project Title		Project Number		Office of	
HDR		ASTORINO		TYPICAL CONCRETE SECTIONS AND DETAILS		VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA, RESEARCH OFFICE BLDG.		646CA2500R		Facilities Management	
HDRArchitecture, Inc.		ARCHITECTURE ENGINEERING INTERIOR DESIGN DESIGN/BUILD		Approved: Project Director		Location VAPHS UNIVERSITY DRIVE		Building Number 30		Department of Veterans Affairs	
1101 King Street Suite 400 Alexandria, Virginia 22314-2944 703.518.8500		227 First Pitt Boulevard Pittsburgh, Pennsylvania 15222 TEL 412 765 1700 FAX 412 765 1711 www.astorino.com				Date 08-18-2010		Checked JHC		Dwg. of RAW	

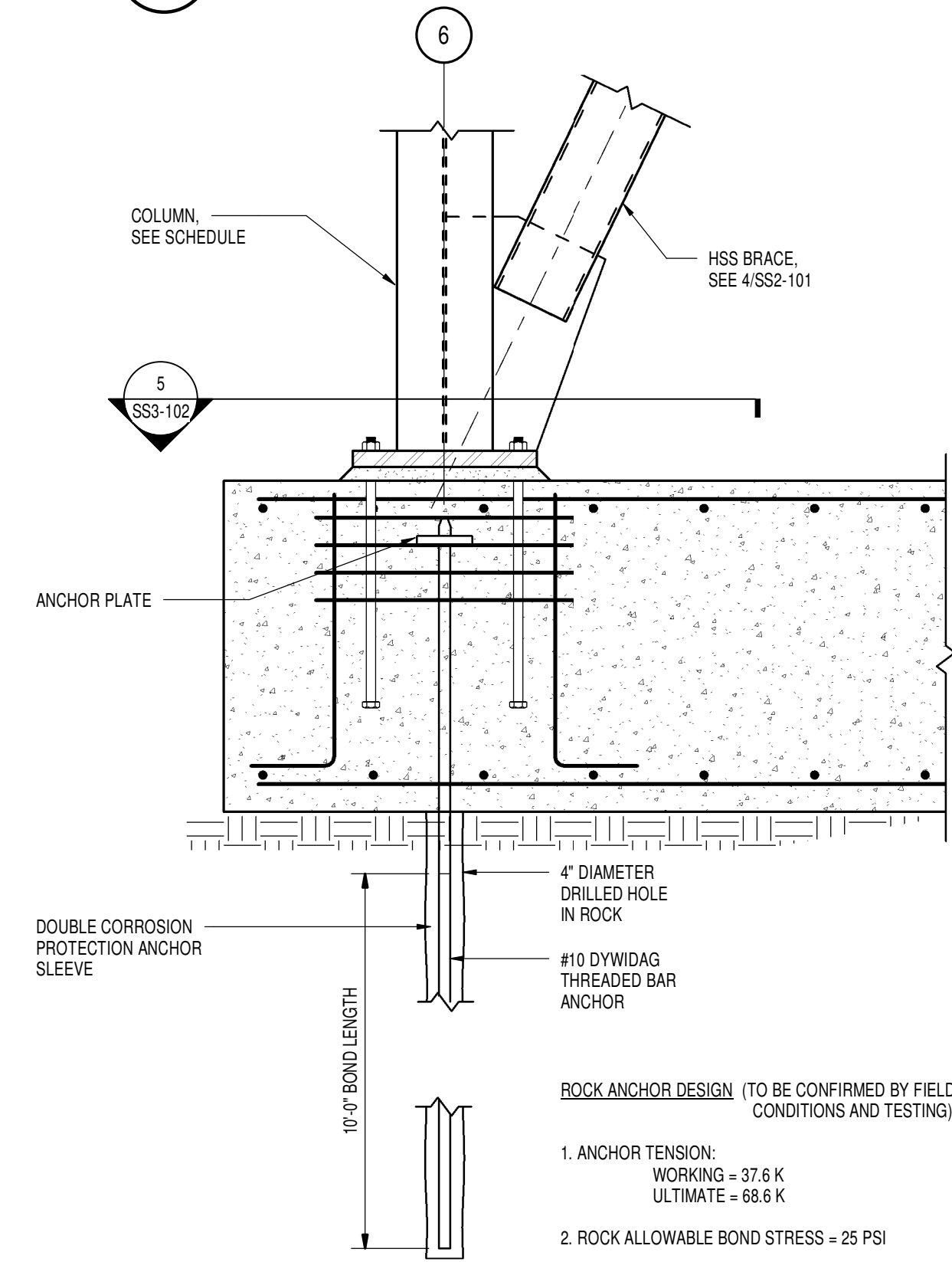


1 TYPICAL SPREAD FOOTING/COLUMN DETAIL
3/4" = 1'-0"

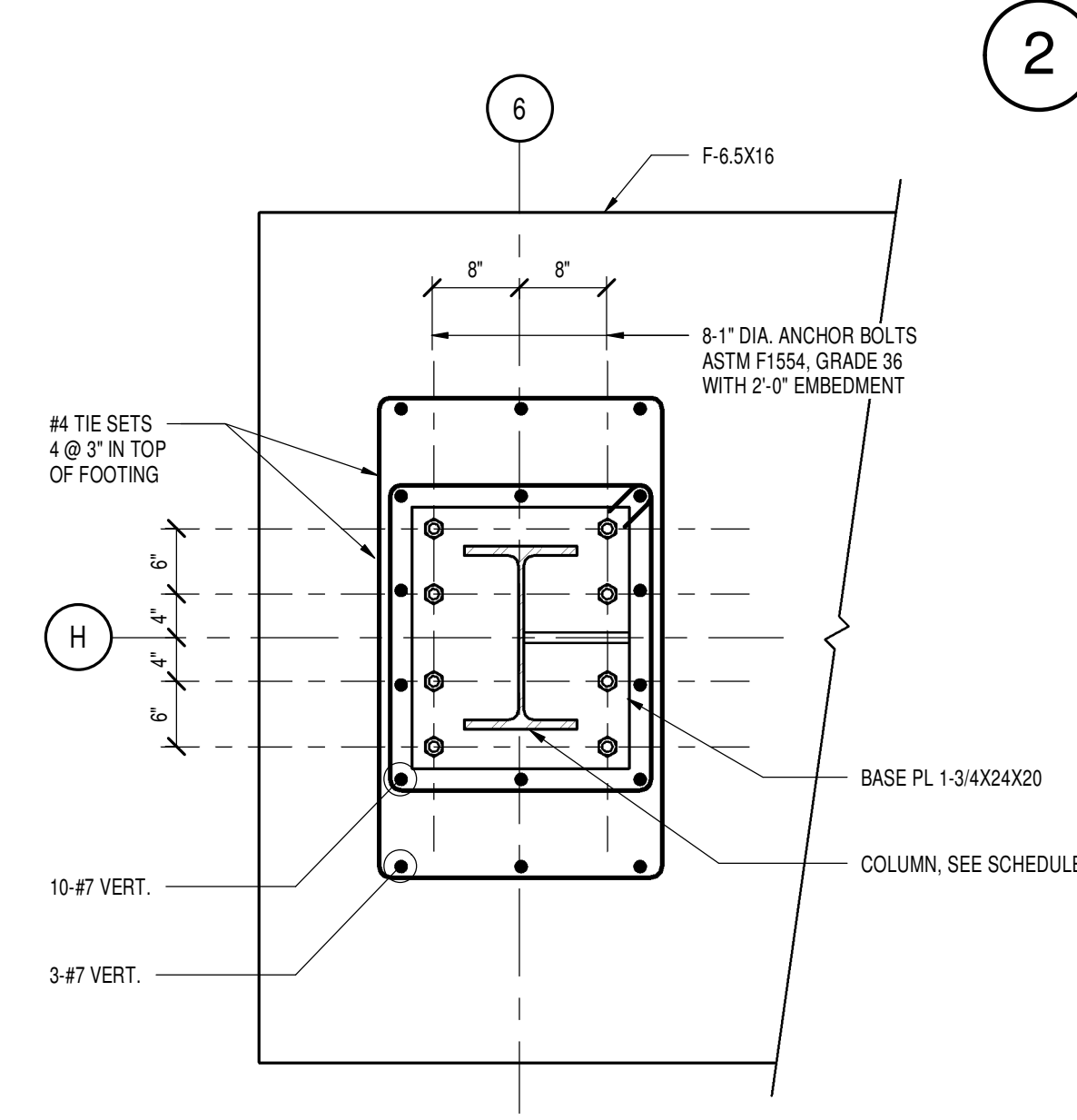
MARK	LENGTH x WIDTH x THICKNESS	BOTTOM REINFORCING	REMARKS
F-5	5'-0" x 5'-0" x 15"	6 #5 E.W.	
F-6	6'-0" x 6'-0" x 15"	7 #5 E.W.	
F-7	7'-0" x 7'-0" x 21"	11 #5 E.W.	
F-8	8'-0" x 8'-0" x 24"	10 #5 E.W.	
F-9	9'-0" x 9'-0" x 33"	13 #5 E.W.	
F-4x10	4'-0" x 10'-0" x 24"	#5 @ 12" E.W., T & B	
F-6.5x16	6'-6" x 16'-0" x 36"	#5 @ 12" E.W., T & B	ROCK ANCHORS REQUIRED, SEE DETAIL
F-12x20	12'-0" x 20'-0" x 24"	#5 @ 12" E.W., T & B	



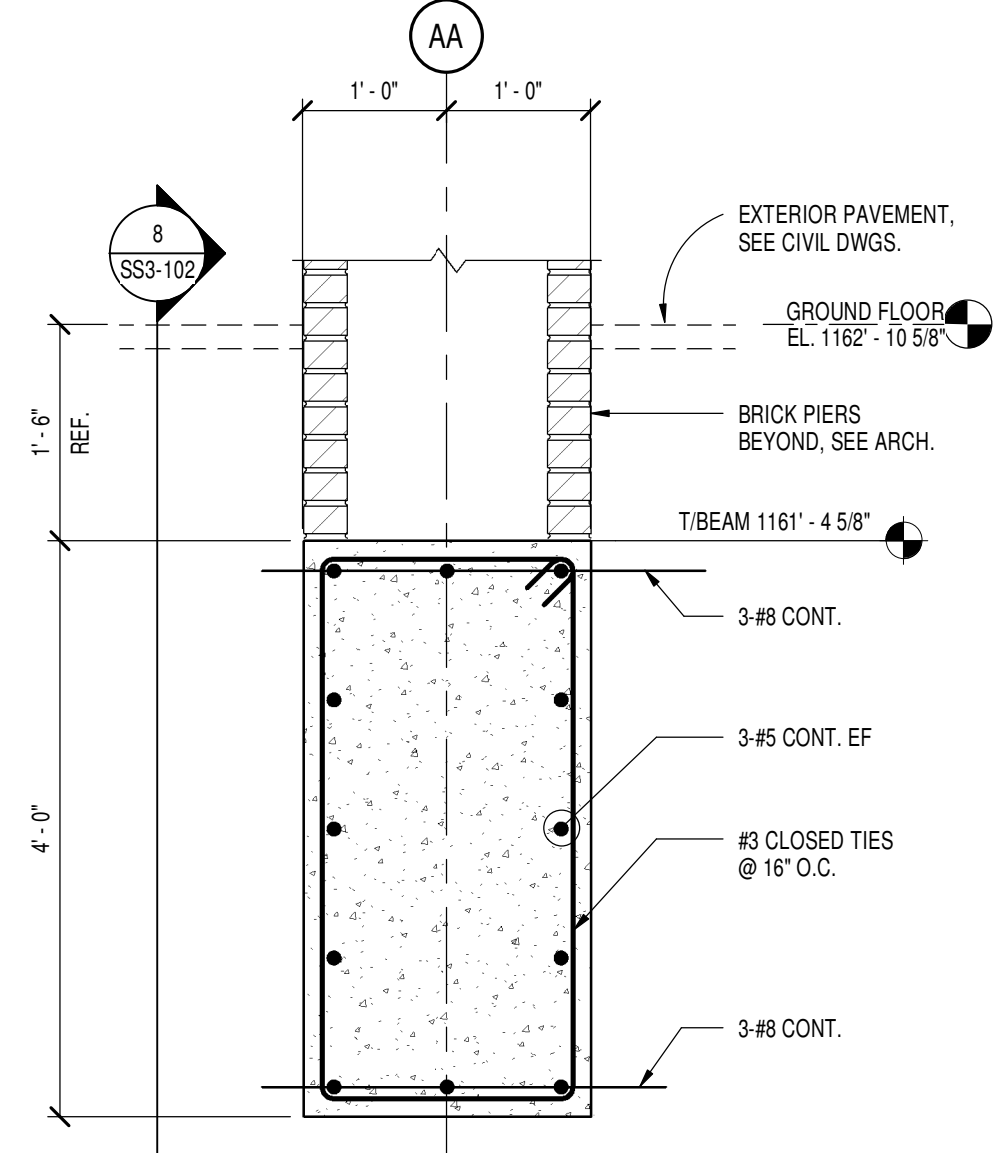
3 PLAN - ROCK ANCHORS AT F-6.5X16
1/4" = 1'-0"



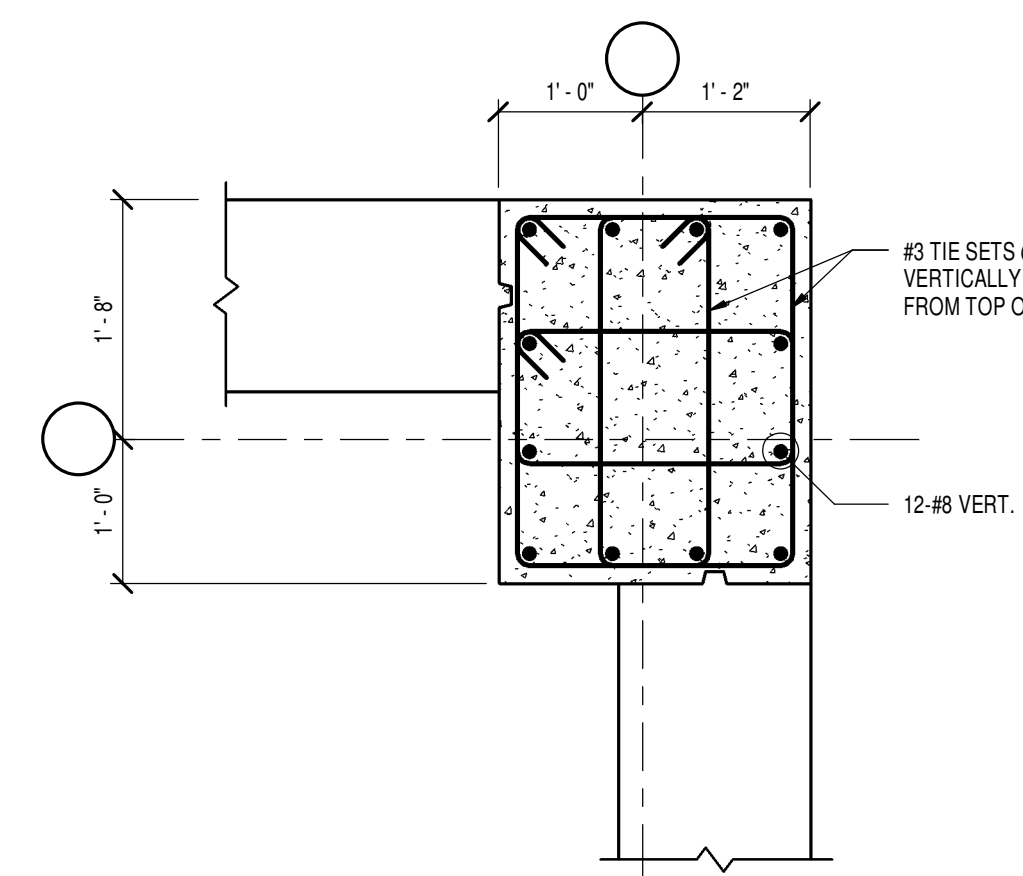
4 DETAIL
3/4" = 1'-0"



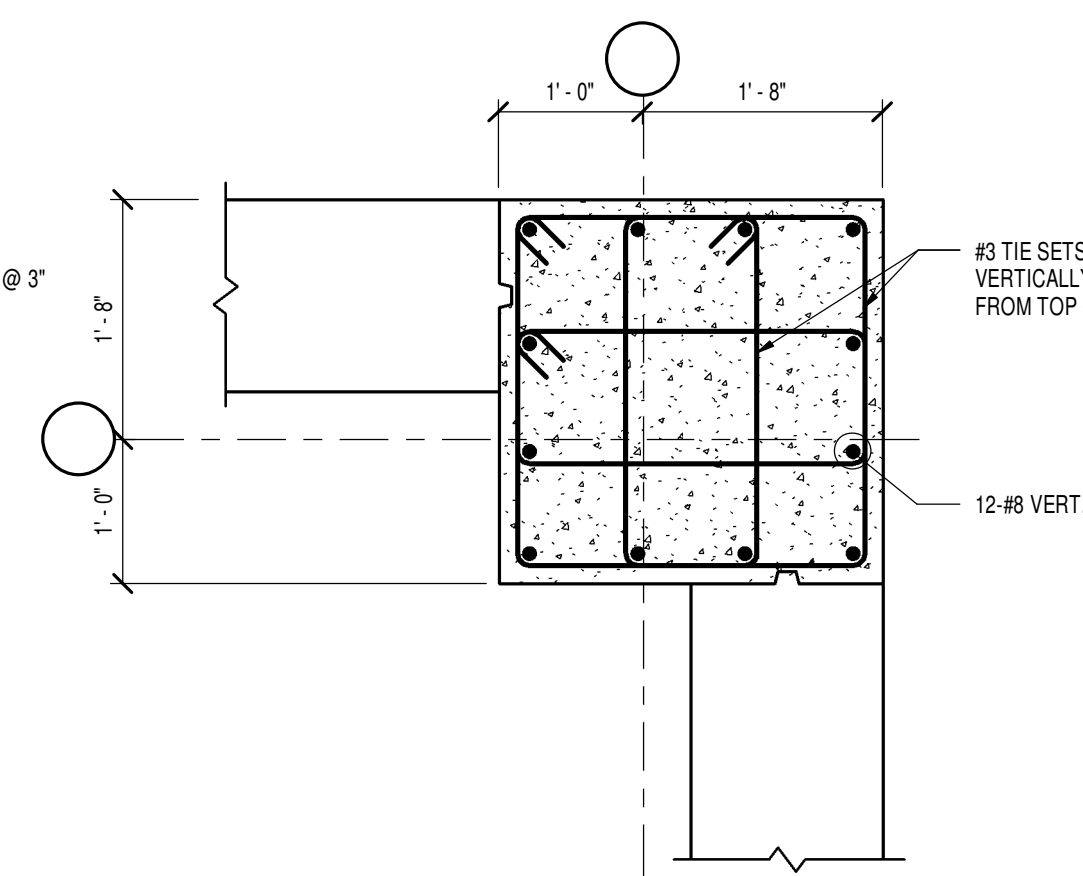
5 SECTION
3/4" = 1'-0"



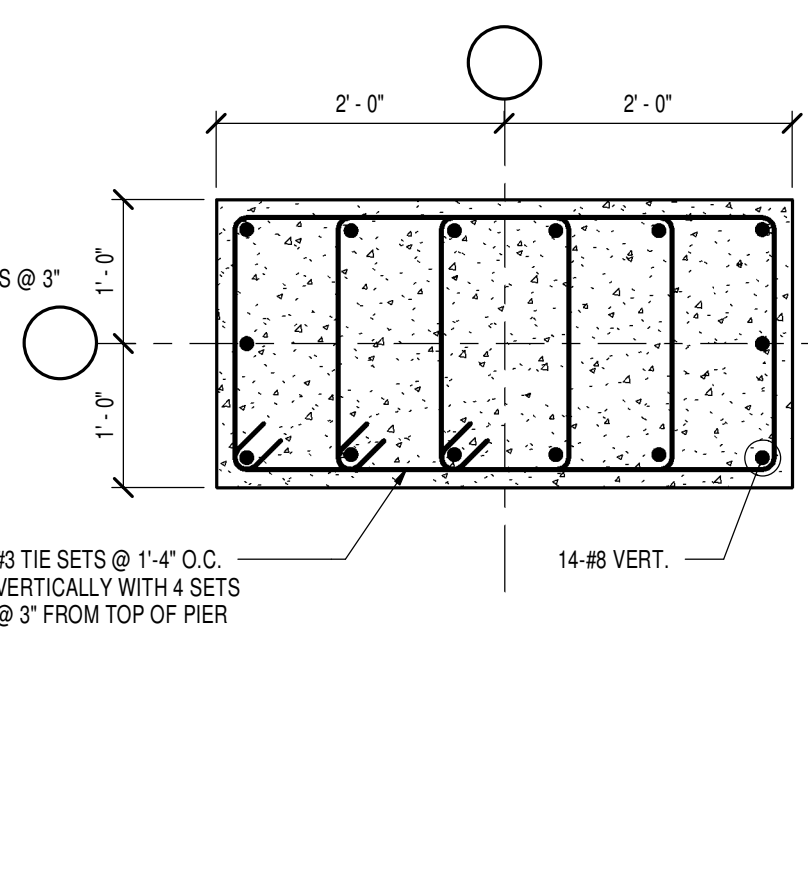
6 SECTION
3/4" = 1'-0"



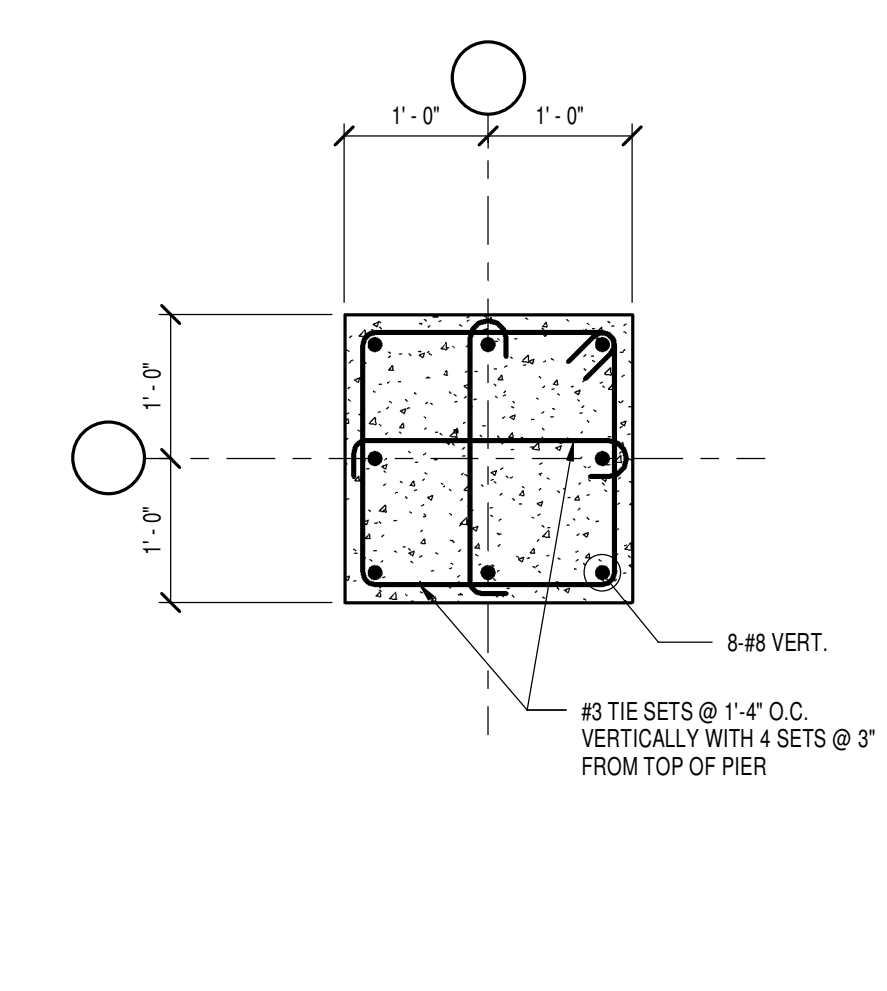
PIER DETAIL P-1



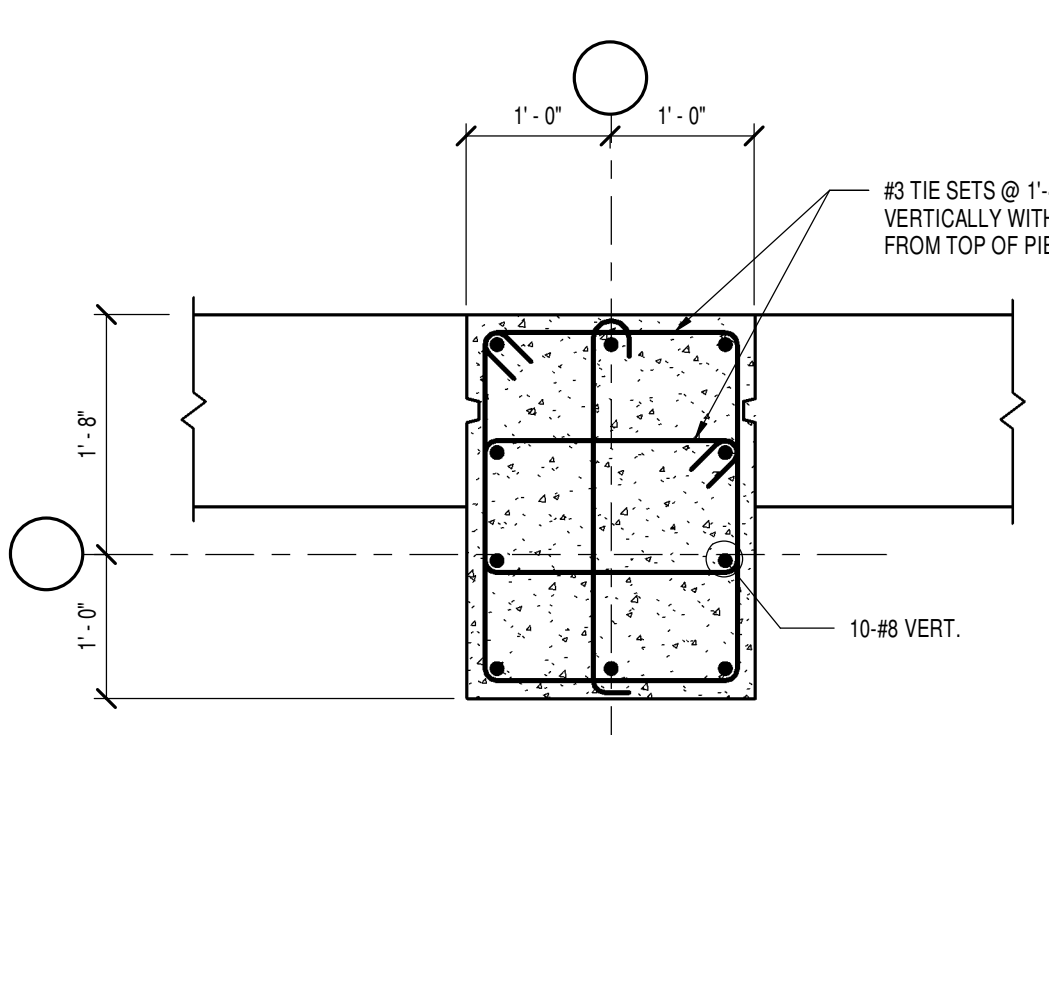
PIER DETAIL P-2



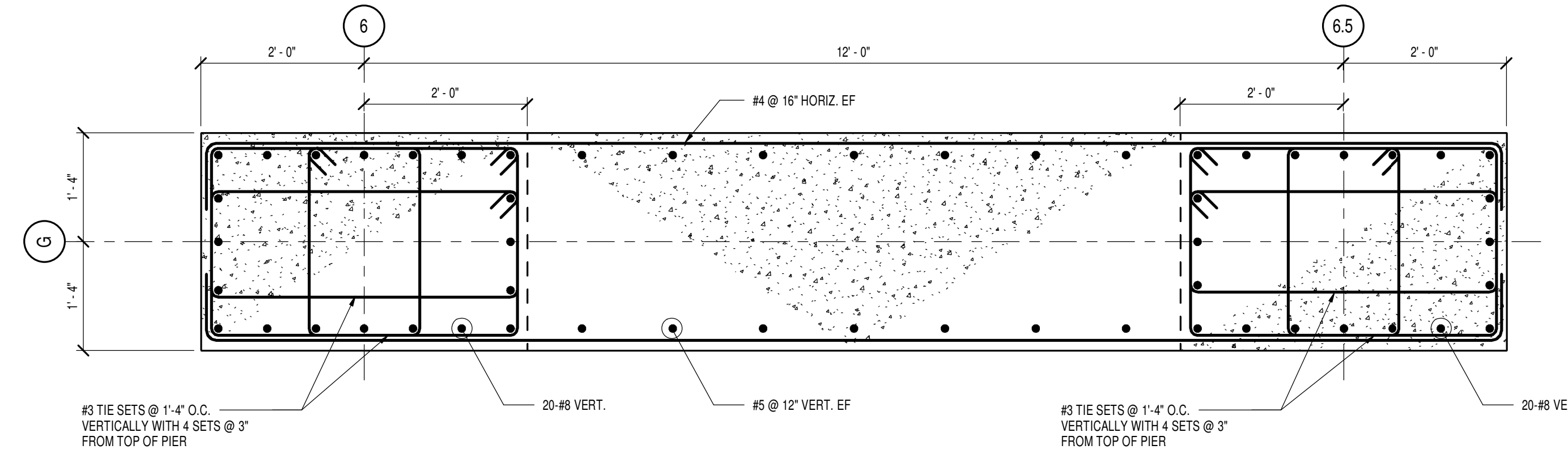
PIER DETAIL P-3



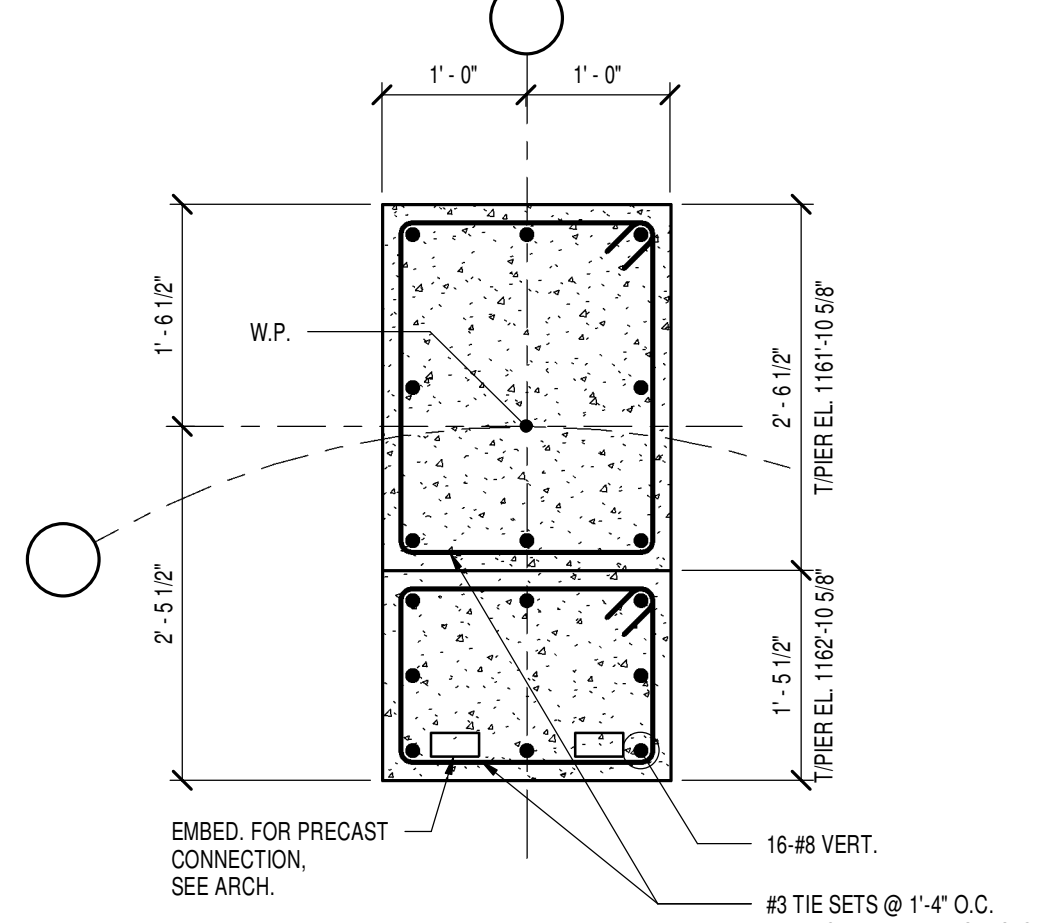
PIER DETAIL P-4



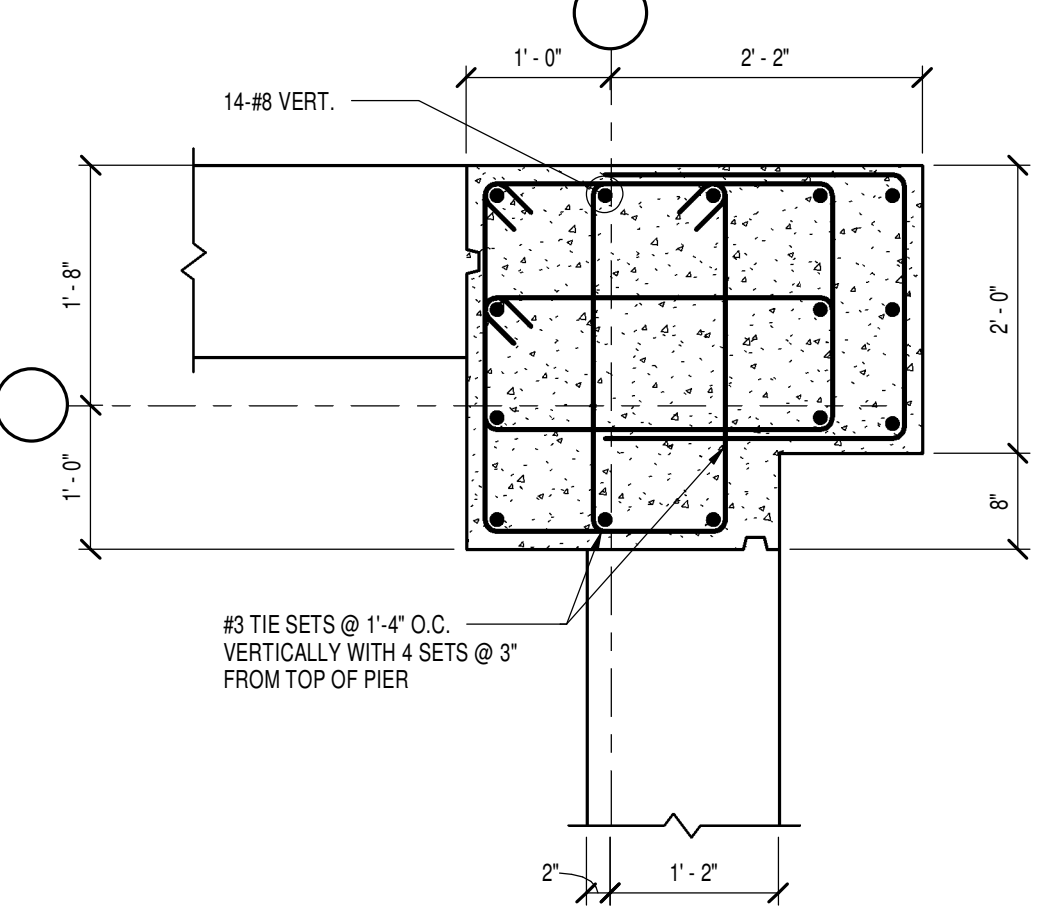
PIER DETAIL P-5



PIER DETAIL P-6

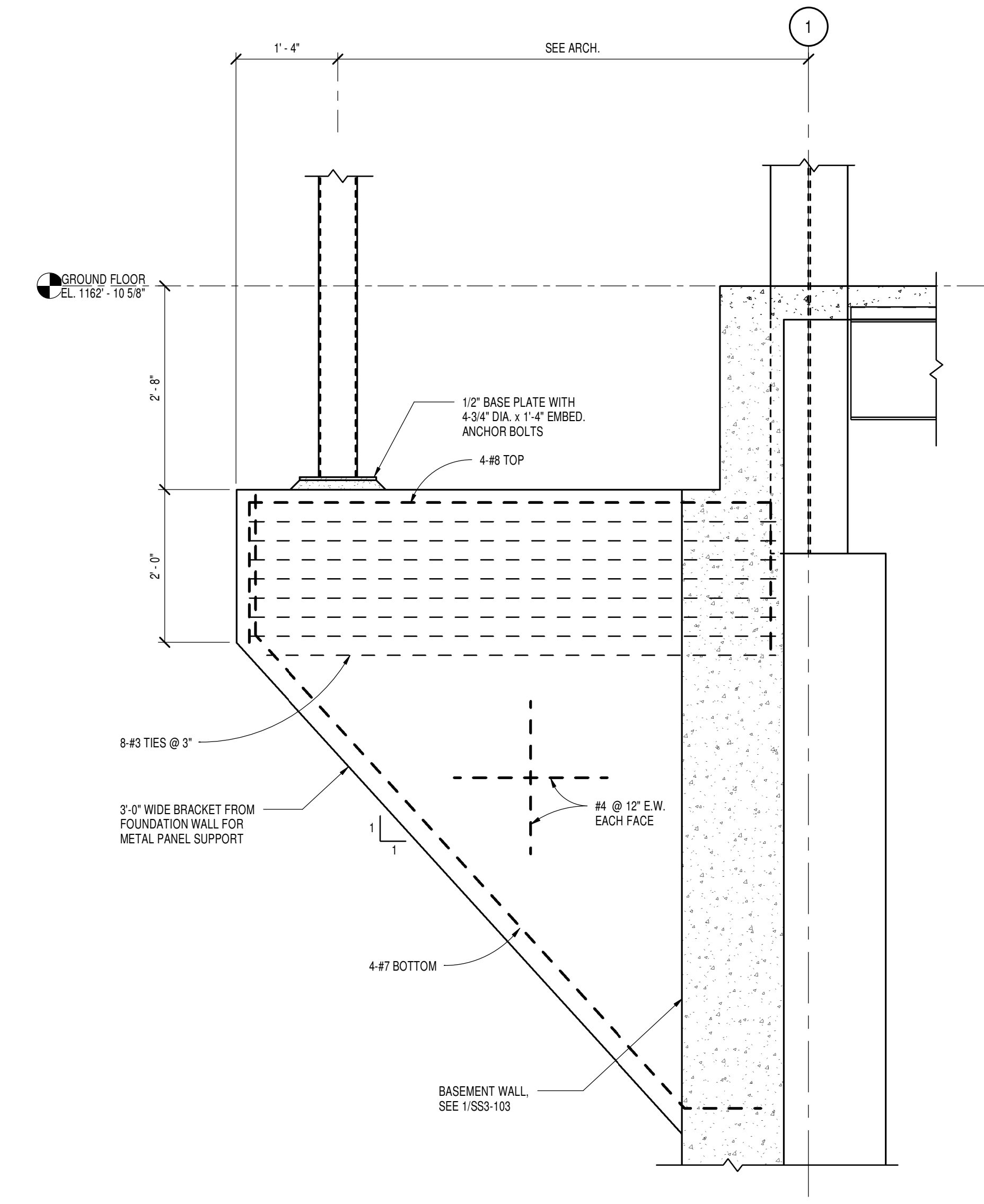


PIER DETAIL P-7

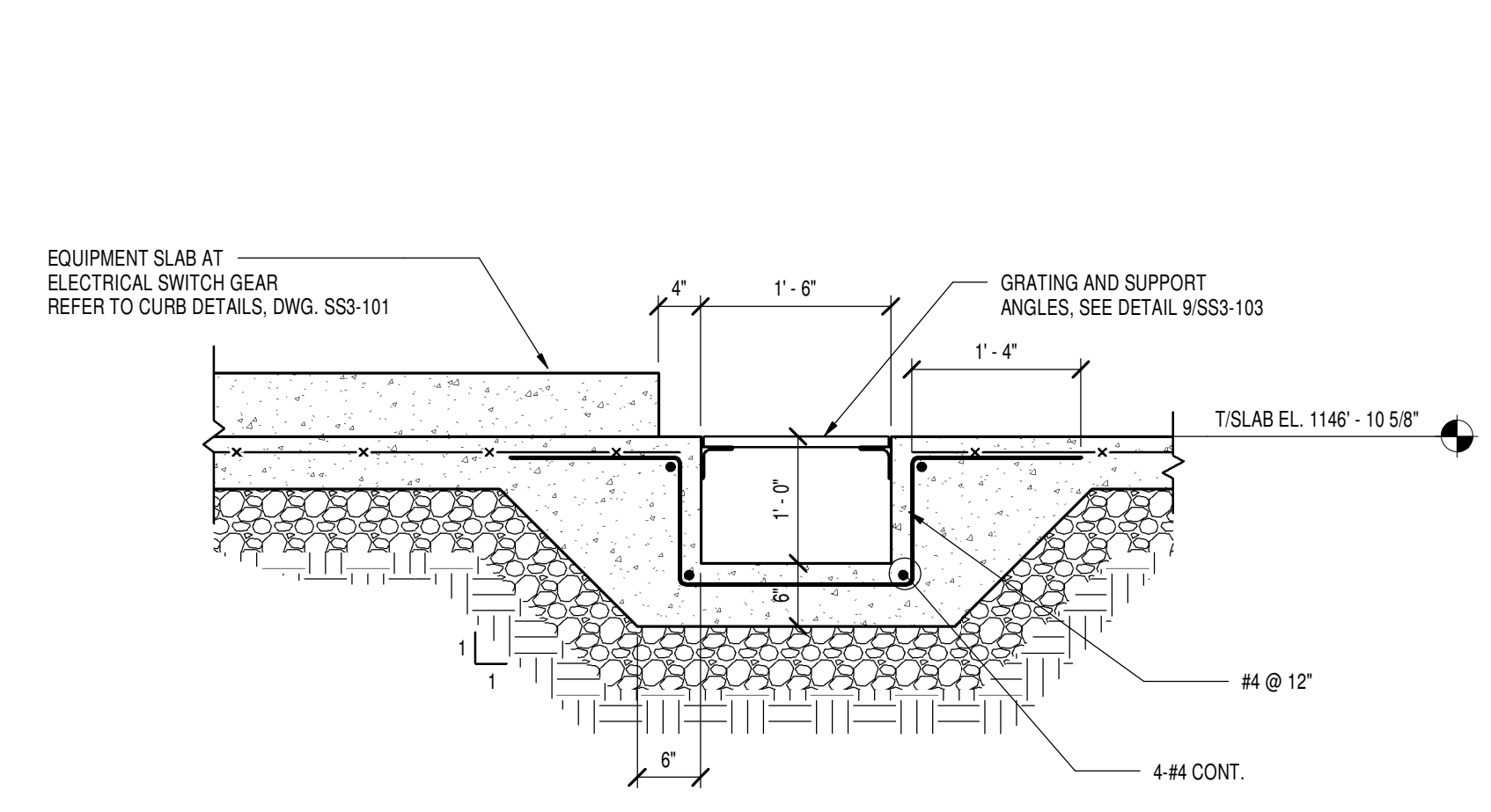


PIER DETAIL P-8

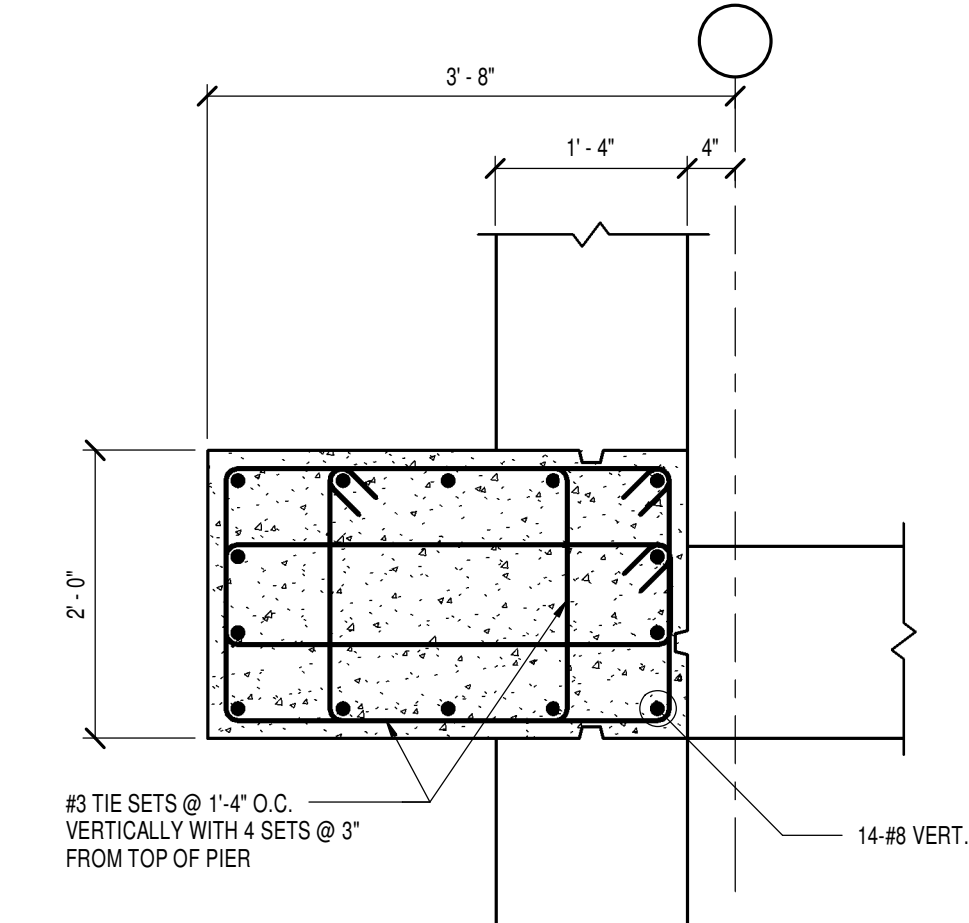
2 TYPICAL PIER DETAILS
3/4" = 1'-0"



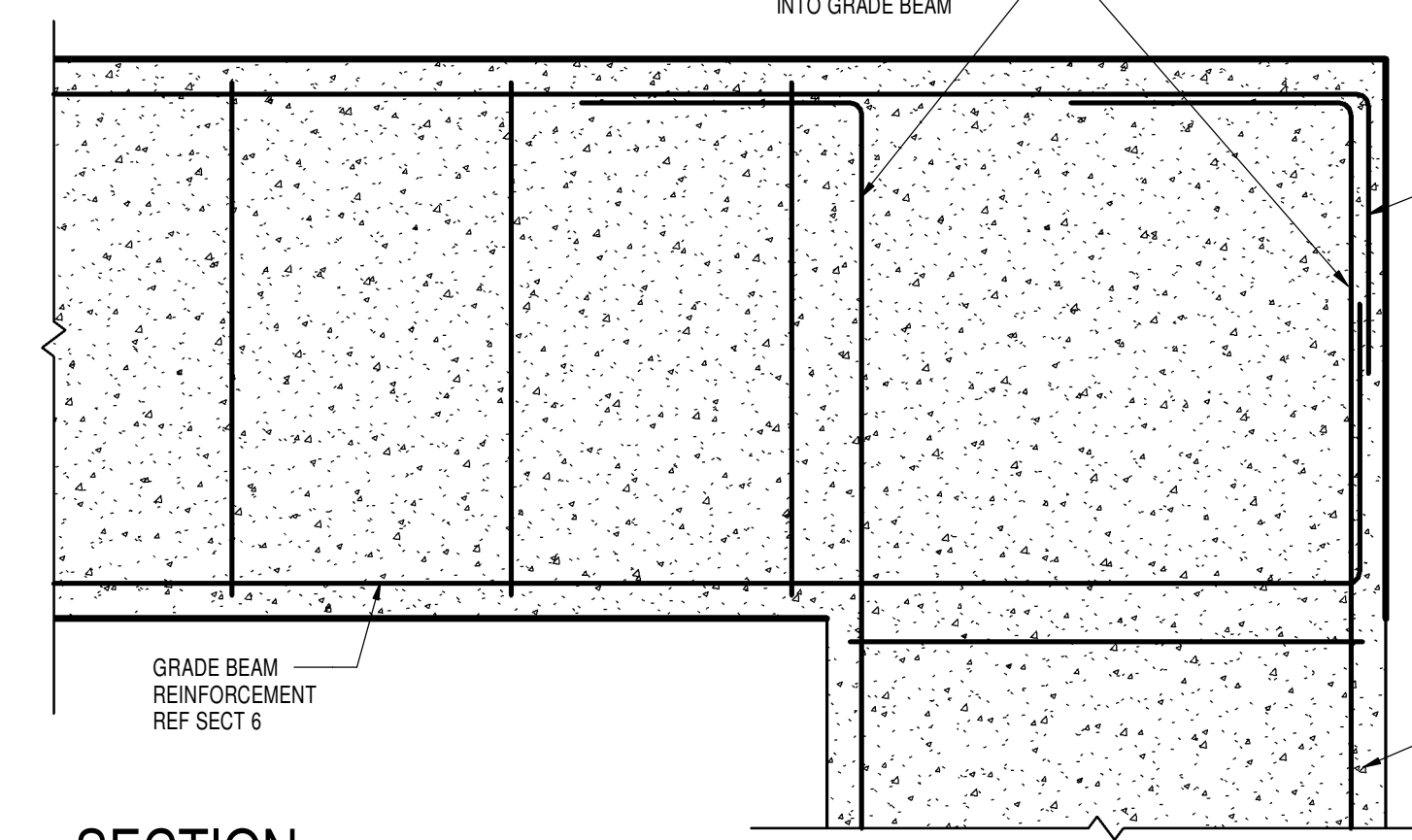
7 SECTION
3/4" = 1'-0"



9 SECTION
3/4" = 1'-0"



PIER DETAIL P-9

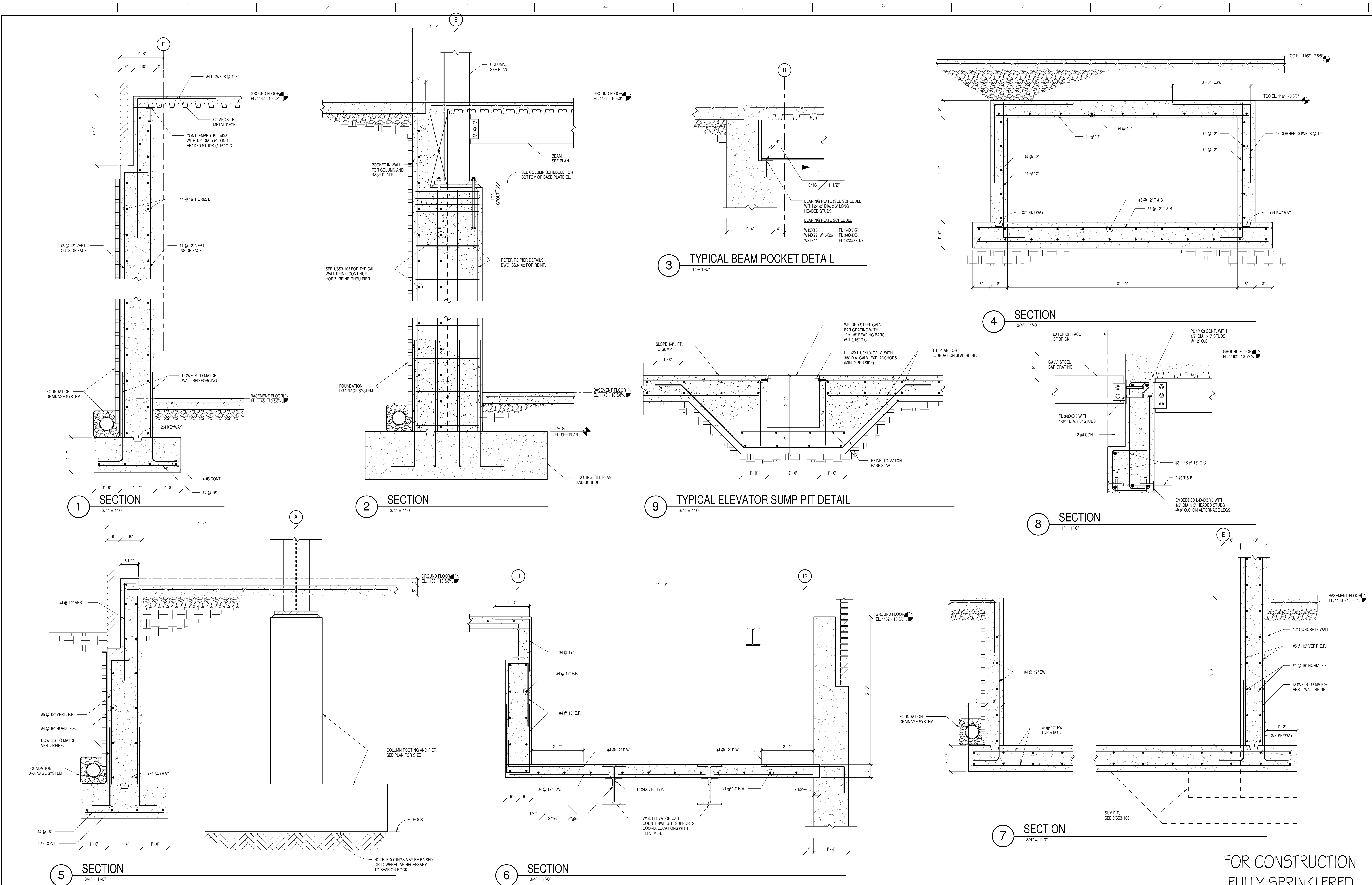


8 SECTION
3/4" = 1'-0"

FOR CONSTRUCTION
FULLY SPRINKLERED

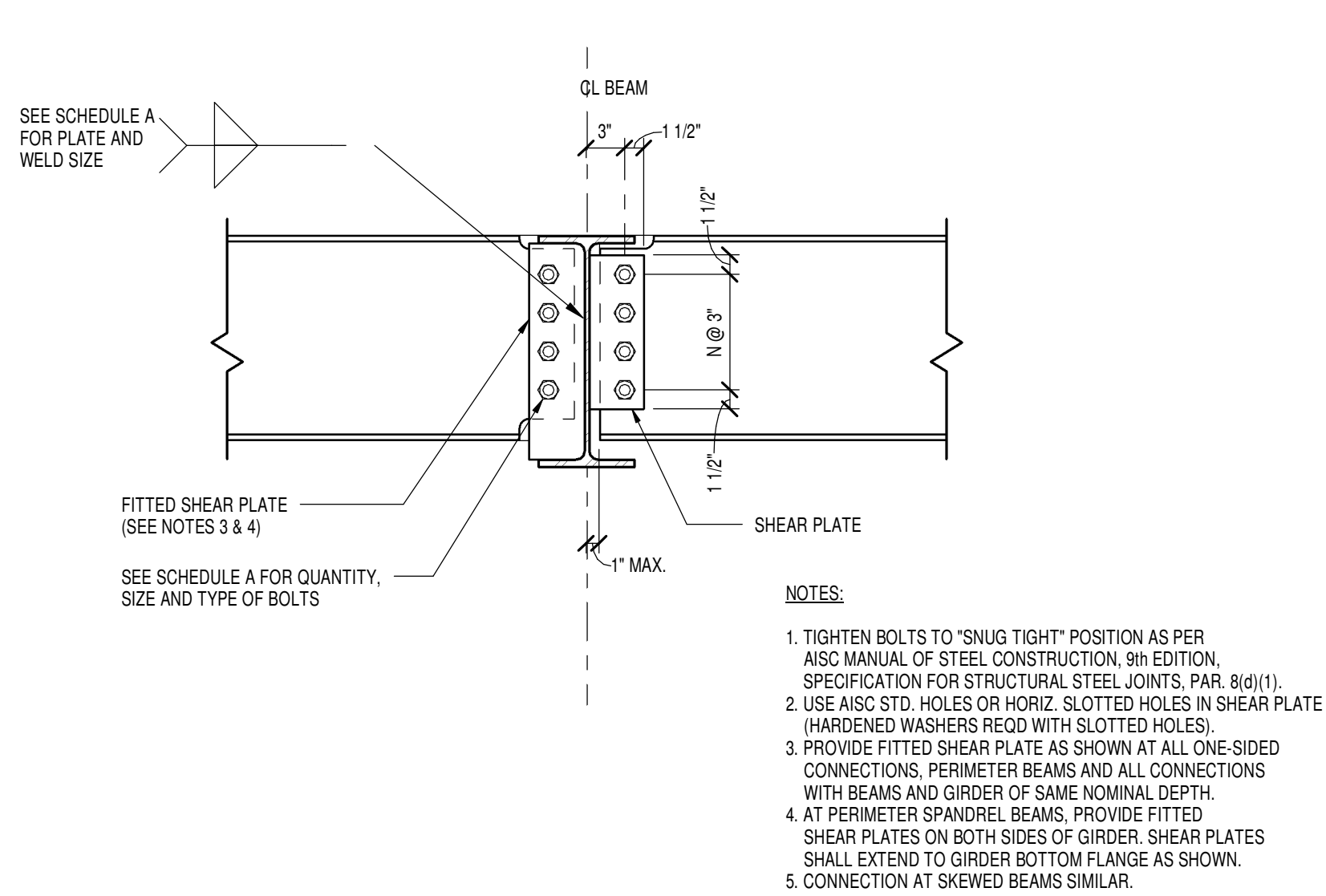
CONSULTANTS: HDR Architecture, Inc. 1101 King Street Suite 400 Alexandria, Virginia 22314-2944 703.518.8500		ARCHITECT/ENGINEERS: ARCHITECTURE ENGINEERING INTERIOR DESIGN DESIGN/BUILD 227 First Pitt Boulevard Pittsburgh, Pennsylvania 15222 TEL: 412.765.1700 FAX: 412.765.1711 www.astorino.com		Drawing Title FOUNDATION DETAILS Approved: Project Director		Project Title VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA, RESEARCH OFFICE BLDG. Location VAPHS UNIVERSITY DRIVE Date 08-18-2010		Project Number 646CA2500R Building Number 30 Drawing Number SS3-102 Dwg. of		Office of Facilities Management 	
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three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
one quarter inch = one foot
three eighths inch = one foot
one eighth inch = one foot
one sixteenth inch = one foot



CONSULTANTS: HDR HDR Architecture, Inc. 1101 King Street Suite 400 Alexandria, Virginia 22314-2944 703.518.8500		ARCHITECT/ENGINEERS: ASTORINO ARCHITECTURE ENGINEERING INTERIOR DESIGN DESIGN/BUILD 227 First Pitt Boulevard Pittsburgh, Pennsylvania 15222 TEL: 412.755.1700 FAX: 412.755.1711 www.astorino.com		Drawing Title CONCRETE - SECTIONS AND DETAILS Approved: Project Director	Project Title VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA, RESEARCH OFFICE BLDG. Location VAPHS UNIVERSITY DRIVE Date 08-18-2010	Project Number 646CA2500R Building Number 30 Drawing Number SS3-103 Dwg. of	Office of Facilities Management Department of Veterans Affairs
Revisions: Date				Checked JHC		Drawn RAW	

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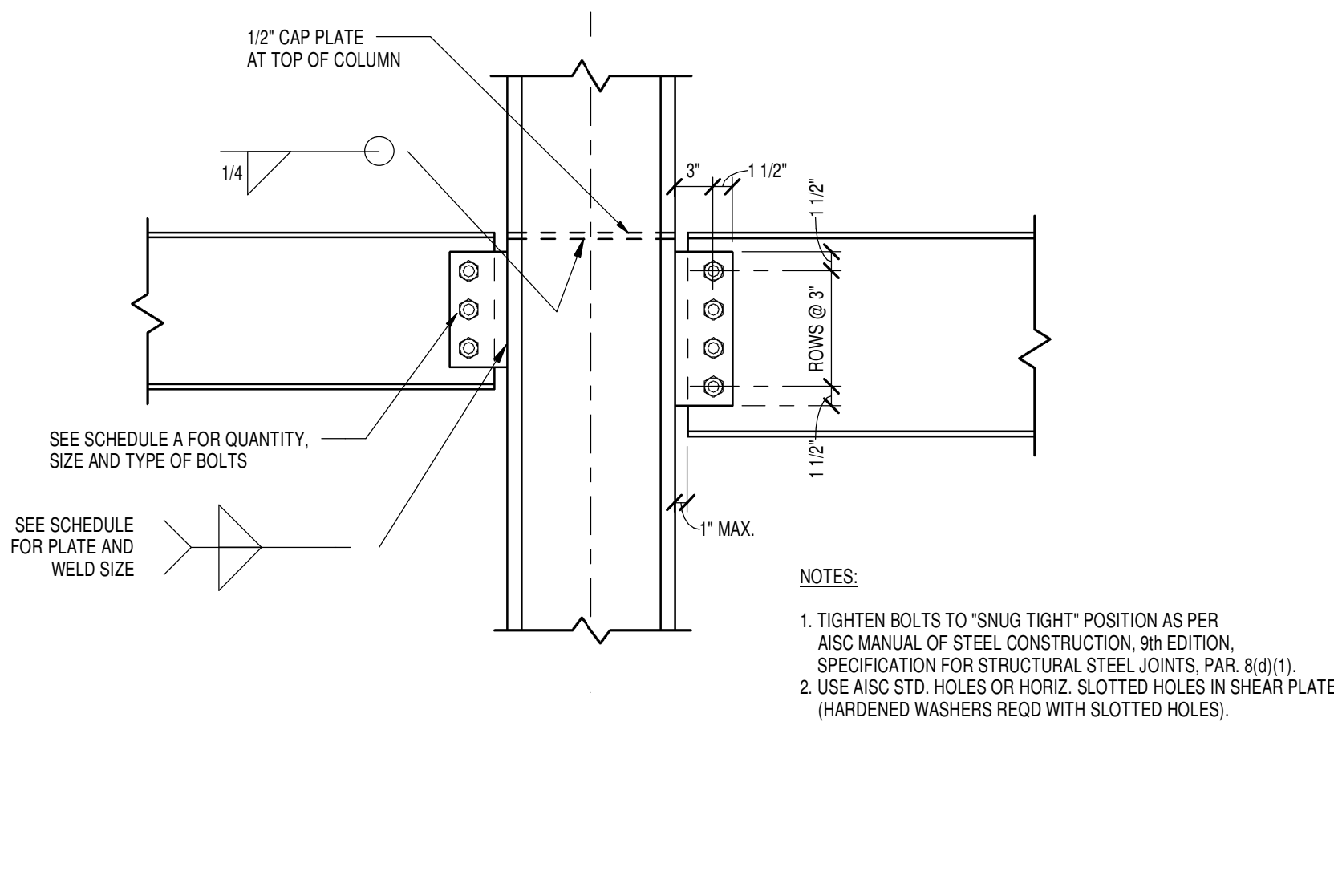
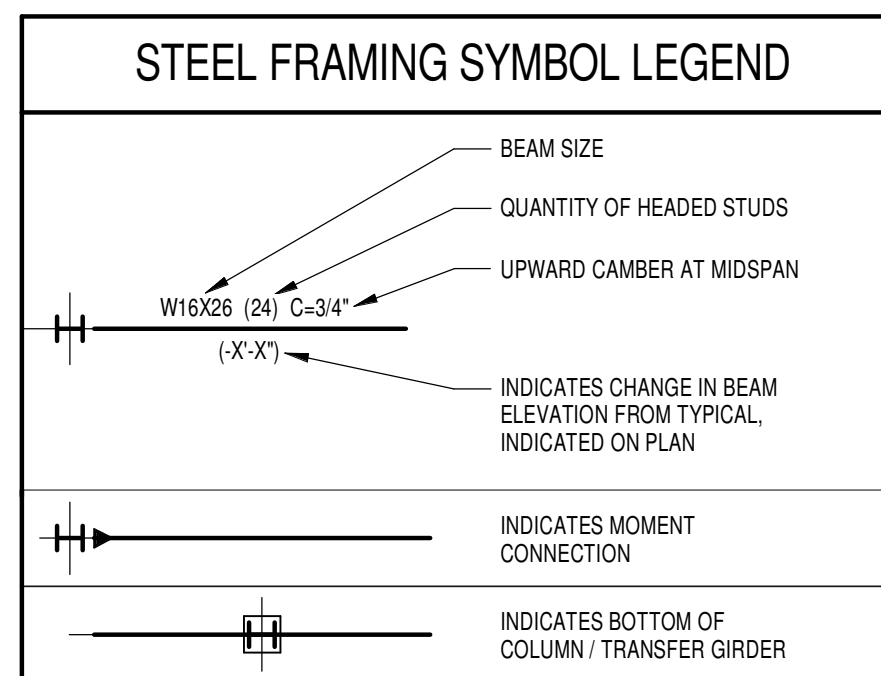
1 TYPICAL BEAM TO GIRDER CONNECTION
1" = 1'-0"

SCHEDULE A - SHEAR PLATES			
BEAM SIZE	PLATE THICKNESS	WELD SIZE	NUMBER OF BOLTS
V8	1/4"	3/16"	2
V10	1/4"	3/16"	2
V12	1/4"	3/16"	3
V14	1/4"	3/16"	3
V16	1/4"	3/16"	4
V18	3/8"	3/16"	5
V21	3/8"	5/16"	6
V24	3/8"	5/16"	7
V27	3/8"	5/16"	8
V30	3/8"	5/16"	8
V33	3/8"	5/16"	9
V36	3/8"	5/16"	10

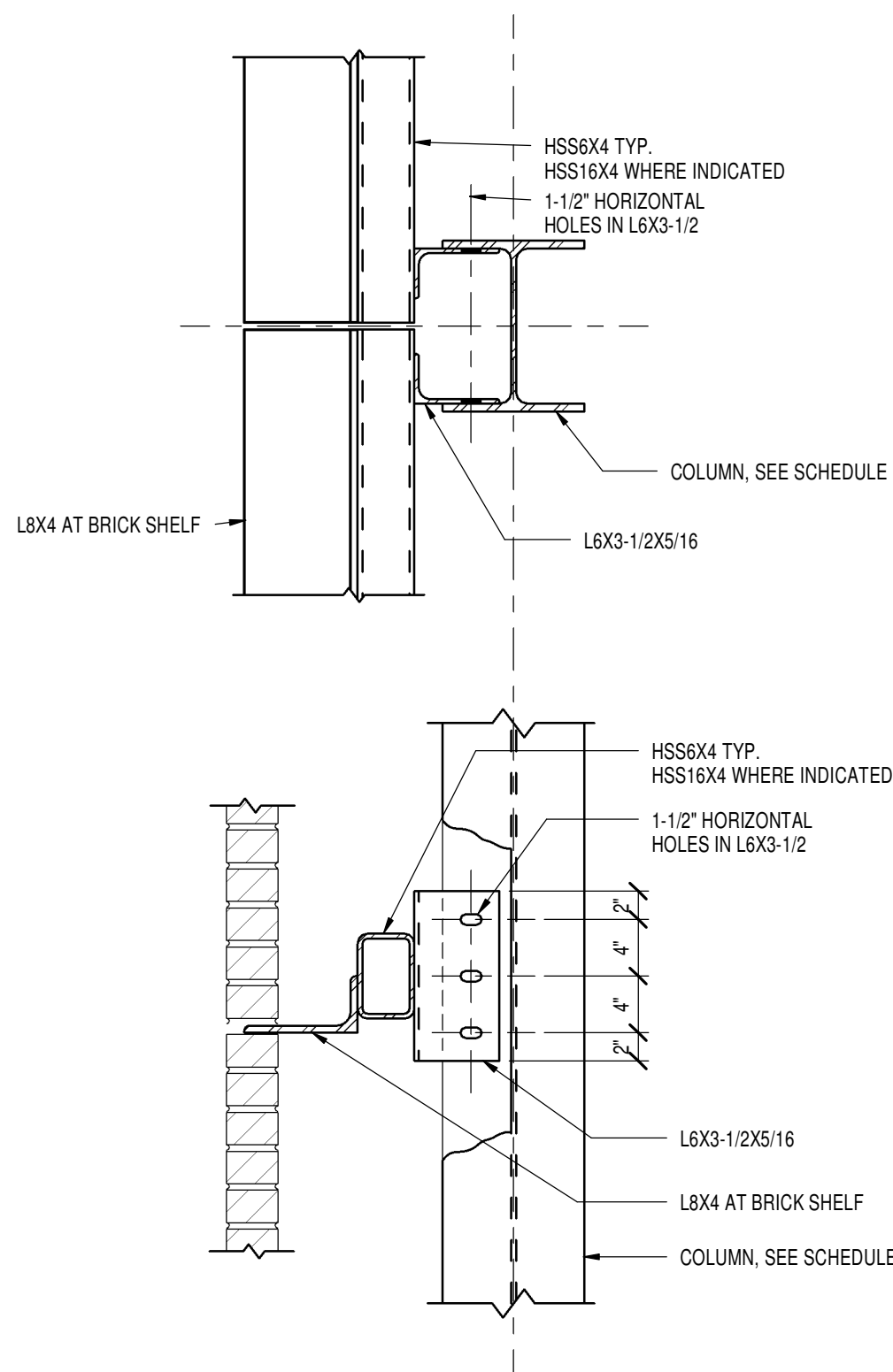
SCHEDULE B - DOUBLE ANGLES			
BEAM SIZE	ANGLE THICKNESS	WELD SIZE	NUMBER OF BOLTS
V8	5/16"	3/16"	2
V10	5/16"	3/16"	2
V12	5/16"	3/16"	3
V14	5/16"	3/16"	3
V16	5/16"	3/16"	4
V18	5/16"	3/16"	5
V21	5/16"	3/16"	6
V24	5/16"	3/16"	7
V27	5/16"	3/16"	8
V30	5/16"	3/16"	8
V33	5/16"	3/16"	9
V36	5/16"	3/16"	10

1. TYPICAL CONNECTIONS SHOWN IN SCHEDULE A & B SHALL BE MADE USING A325 BOLTS.
2. CONNECTIONS SHOWN IN SCHEDULE A MAY BE REPLACED WITH CONNECTIONS SHOWN IN SCHEDULE B USING DOUBLE ANGLES.
3. BEAM/GIRDER REACTIONS EXCEEDING THE SHEAR PLATE CONNECTION CAPACITIES ARE INDICATED ON PLANS. DOUBLE ANGLES CONNECTIONS SHOWN IN SCHEDULE B SHALL BE USED AT THESE LOCATIONS.

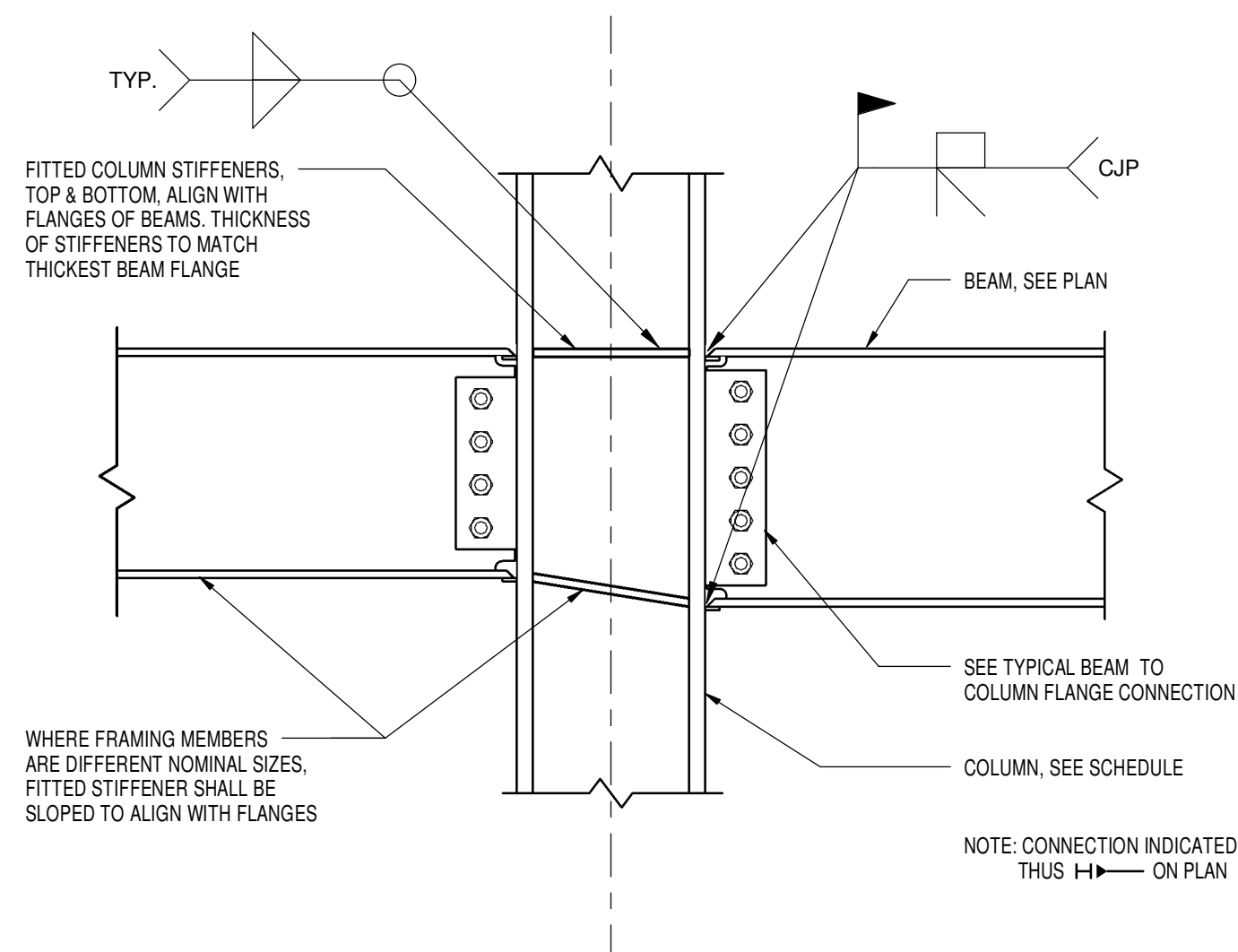
5 STANDARD BEAM CONNECTION SCHEDULES
1/2" = 1'-0"



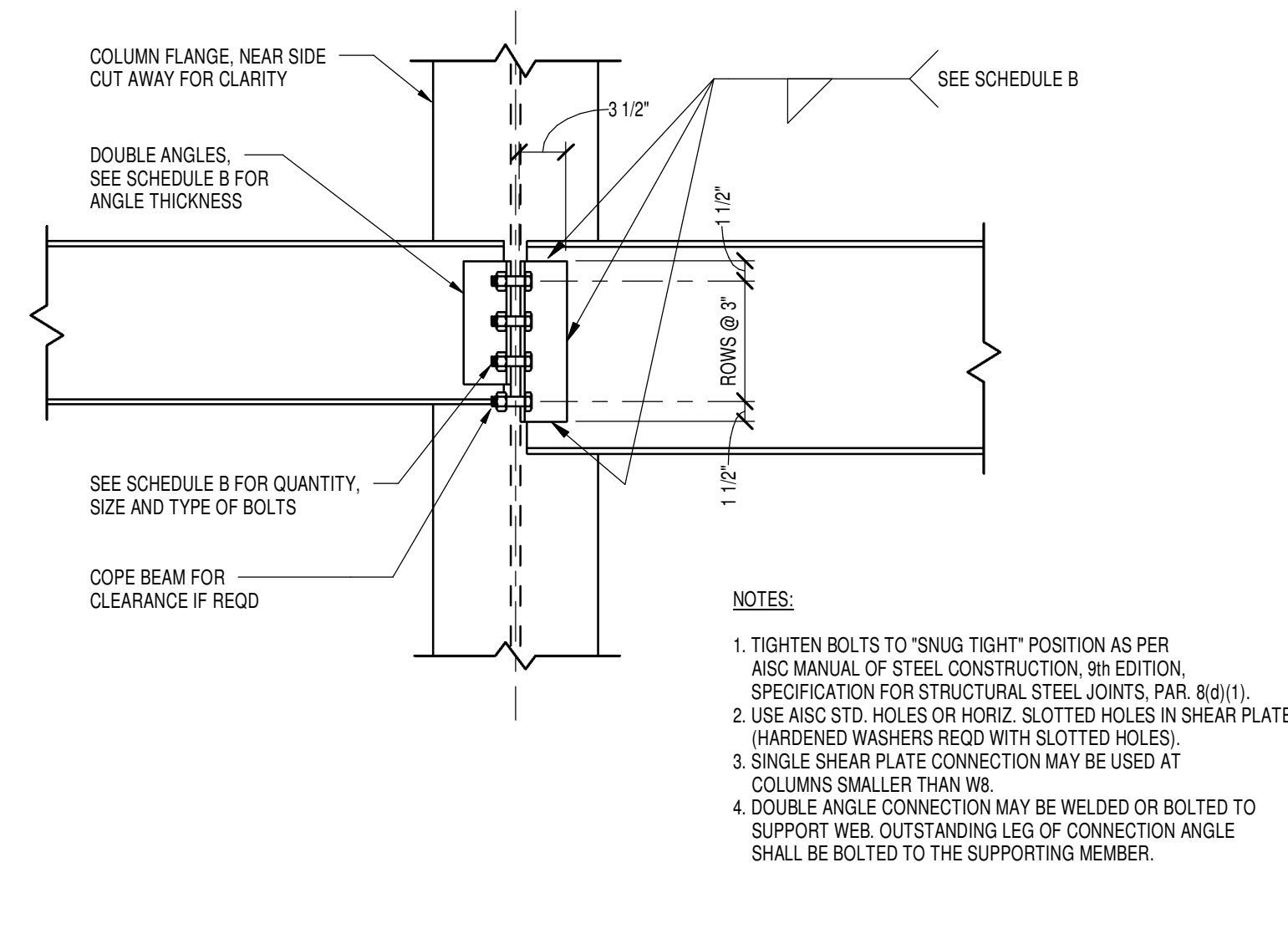
2 TYPICAL BEAM TO COLUMN FLANGE CONNECTION
1" = 1'-0"



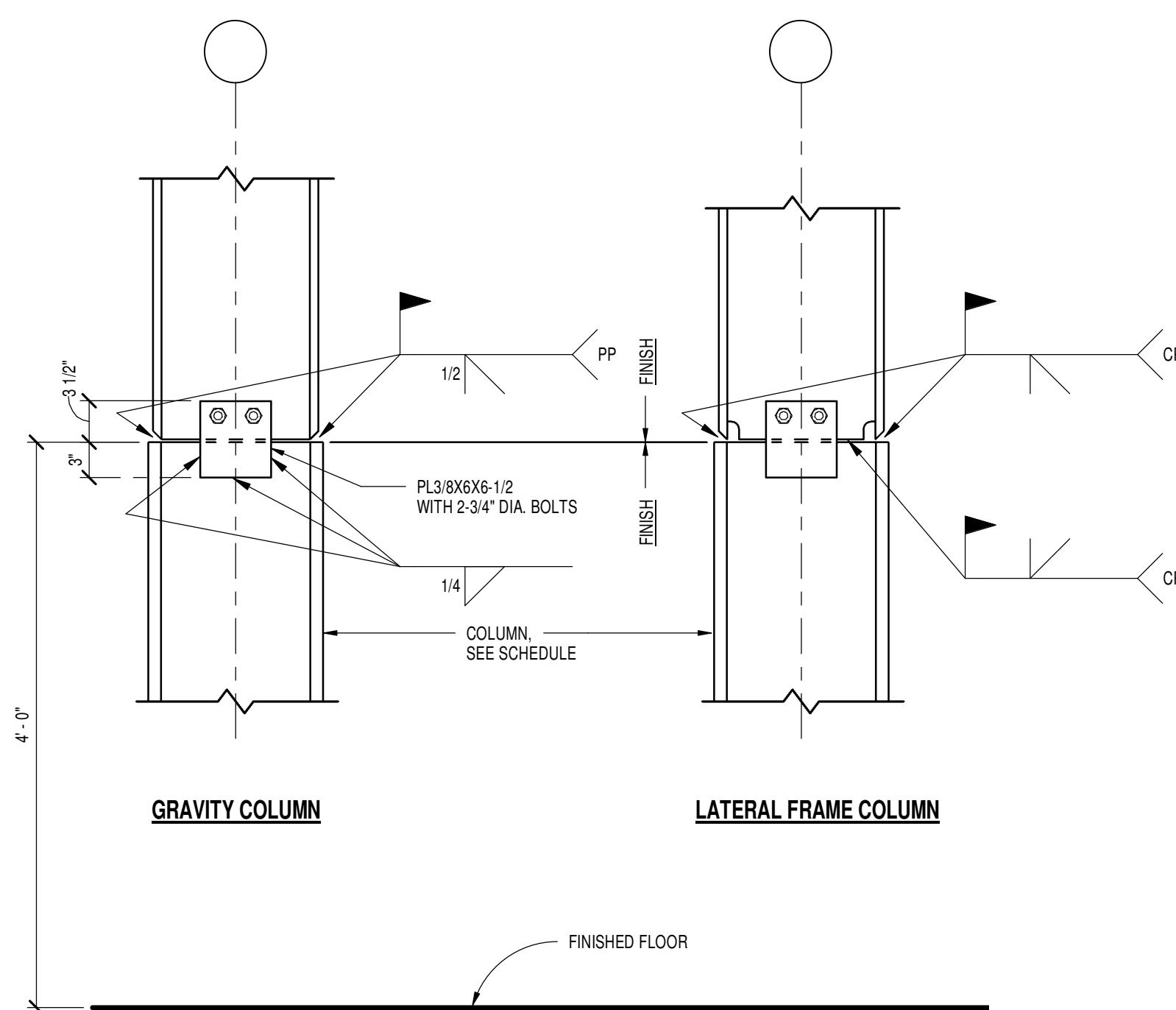
6 TYPICAL BRICK SHELF SUPPORT AT COLUMNS
1" = 1'-0"



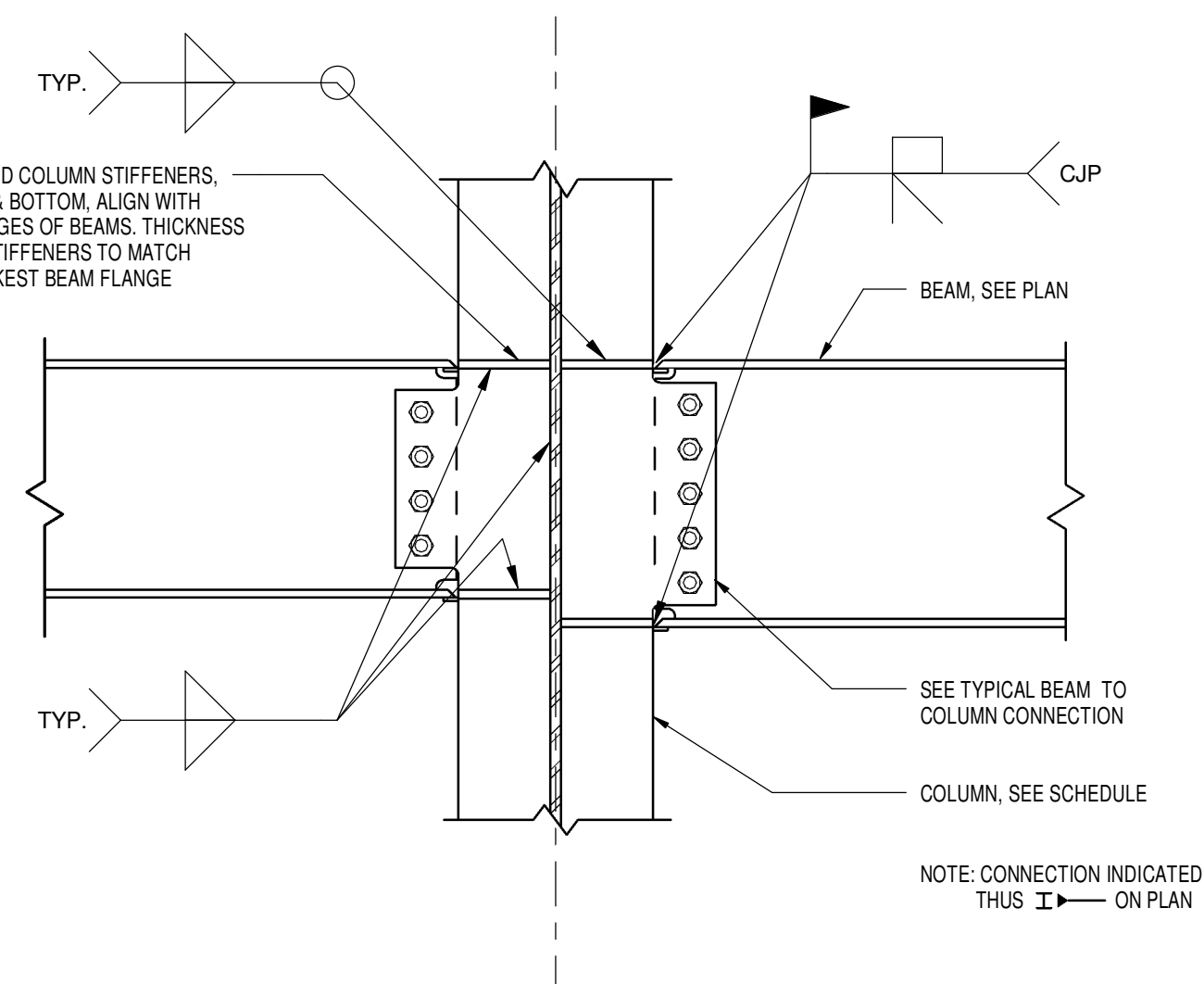
9 TYPICAL COLUMN FLANGE MOMENT CONNECTION
1" = 1'-0"



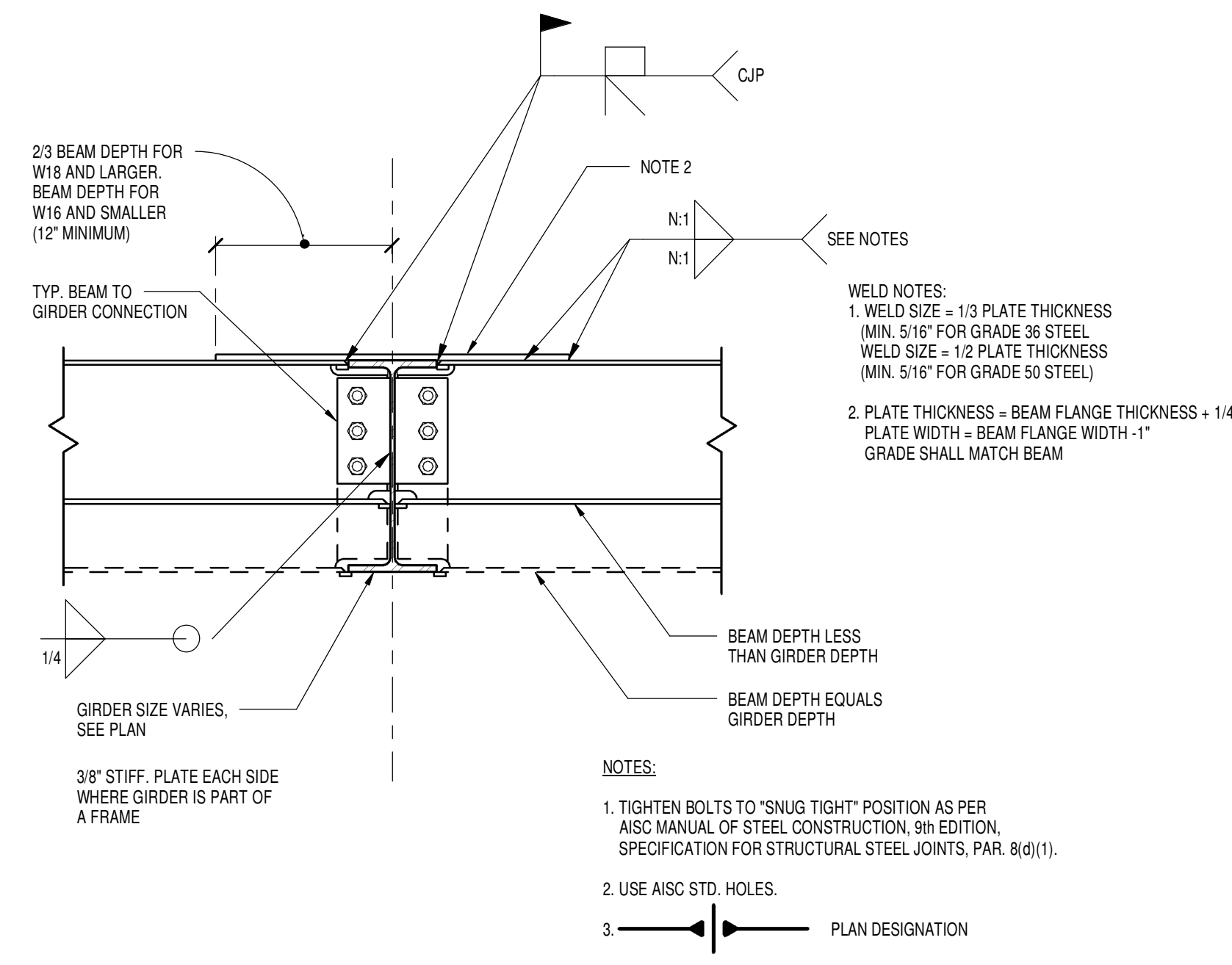
3 TYPICAL BEAM TO COLUMN WEB CONNECTION
1" = 1'-0"



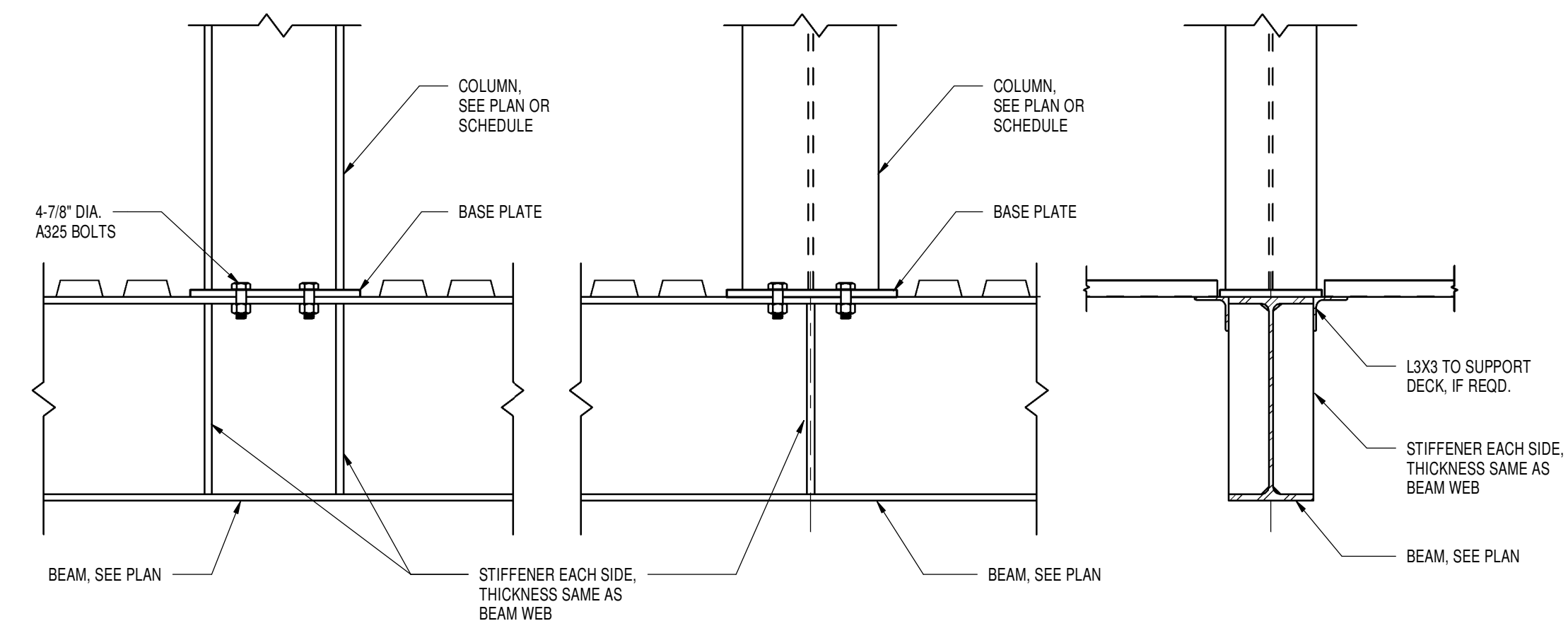
7 TYPICAL WELDED COLUMN SPLICE
1" = 1'-0"



10 TYPICAL COLUMN WEB MOMENT CONNECTION
1" = 1'-0"



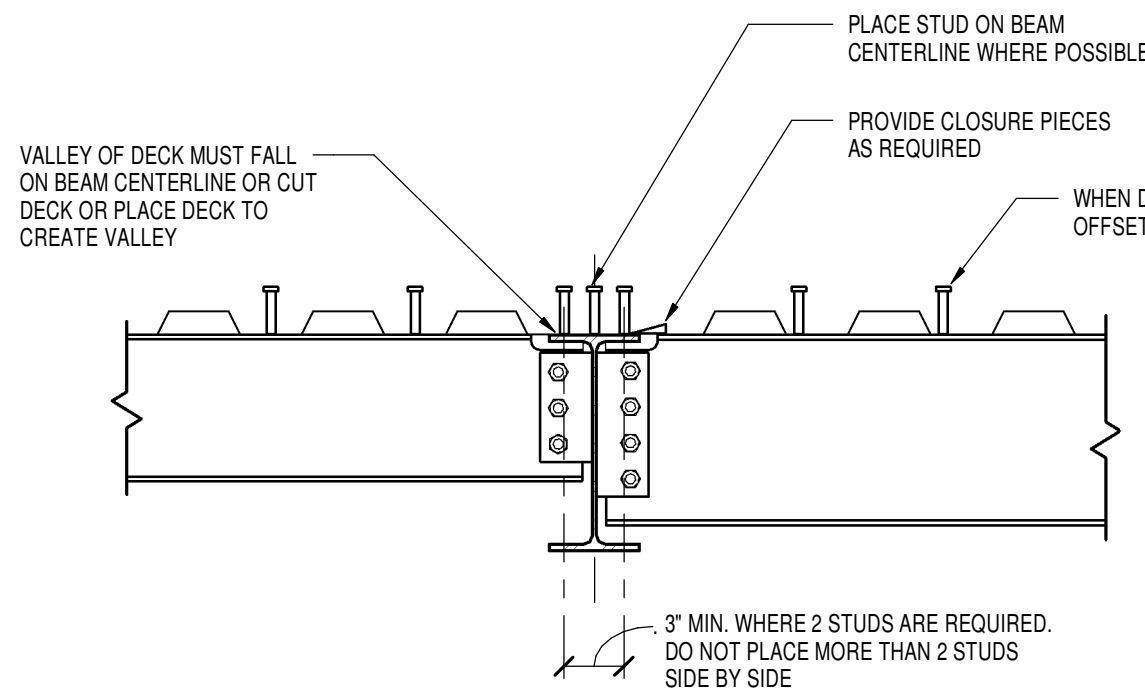
4 TYPICAL CANTILEVER BEAM MOMENT CONNECTION
1" = 1'-0"



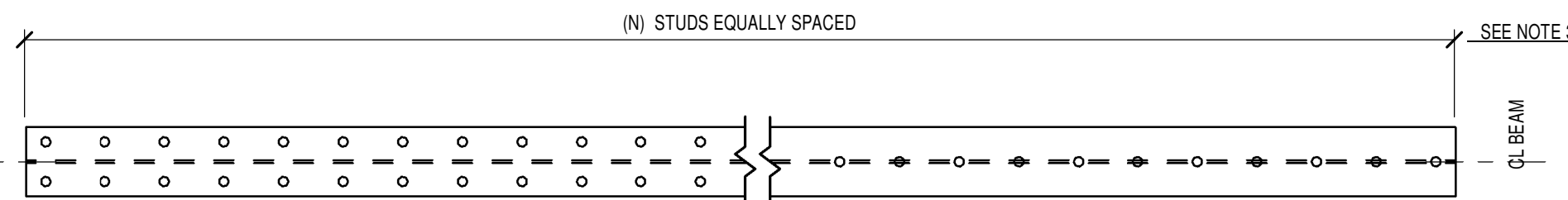
8 TYPICAL TRANSFER COLUMN BASE PLATE DETAIL
1" = 1'-0"

CONSULTANTS: HDR HDR Architecture, Inc. 1101 King Street Suite 400 Alexandria, Virginia 22314-2944 703.518.8500		ARCHITECT/ENGINEERS: ARCHITECTURE ENGINEERING INTERIOR DESIGN DESIGN/BUILD 221 First Pitt Boulevard Pittsburgh, Pennsylvania 15222 TEL 412 755 1700 FAX 412 755 1711 www.astorino.com		Drawing Title TYPICAL STEEL SECTIONS AND DETAILS Approved: Project Director	Project Title VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA, RESEARCH OFFICE BLDG. Location VAPHS UNIVERSITY DRIVE Date 08-18-2010 Checked JHC Drawn RAW	Project Number 646CA2500R Building Number 30 Drawing Number SS5-101 Dwg. of	Office of Facilities Management Department of Veterans Affairs
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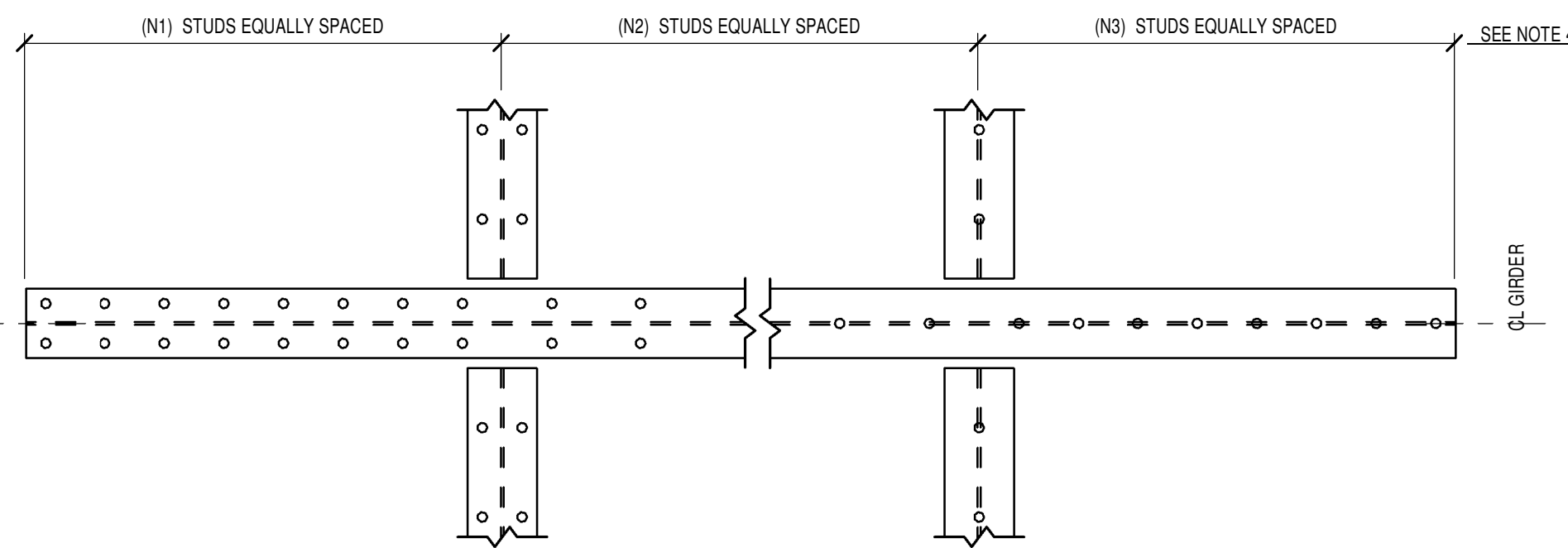
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three quarters inch = one foot
one half inch = one foot
one quarter inch = one foot
three eighths inch = one foot
one eighth inch = one foot
one sixteenth inch = one foot



TYPICAL SECTION



UNIFORM SPACING



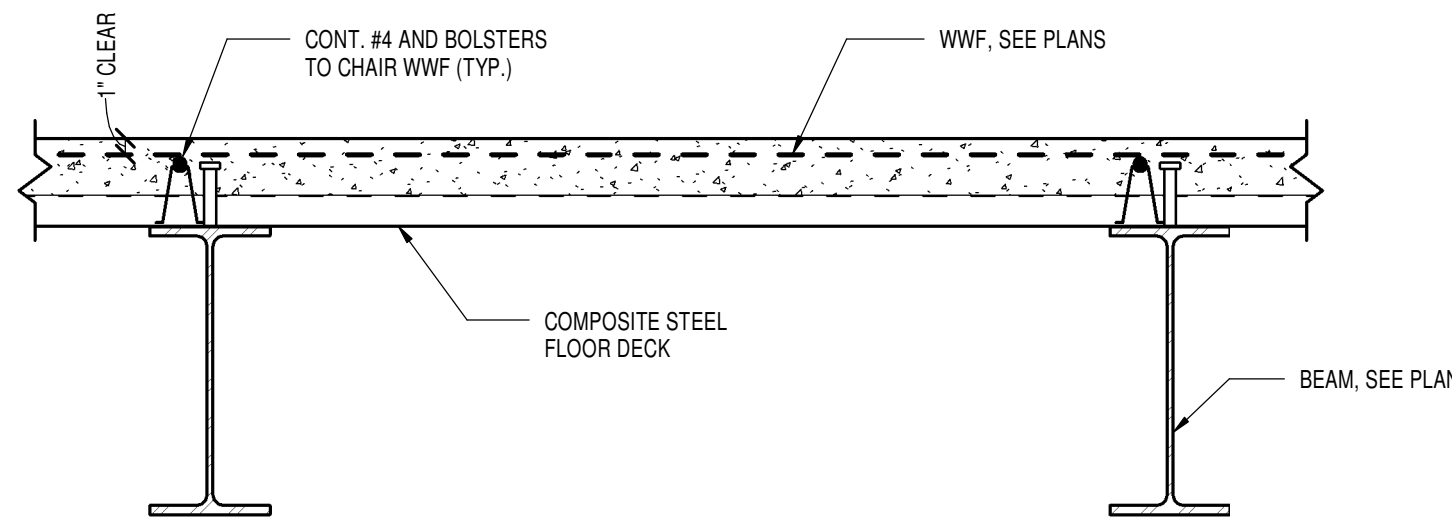
SEGMENTED SPACING

1 TYPICAL STUD PLACEMENT DETAILS

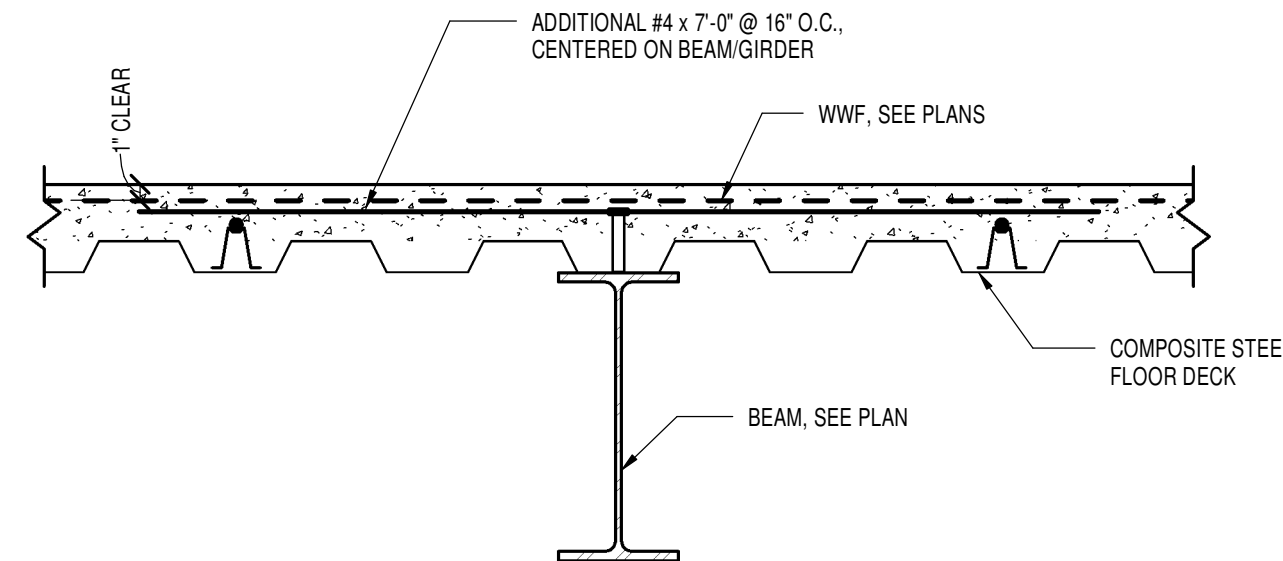
1/4" = 1'-0"

PLACEMENT INSTRUCTION FOR HEADED STUD TYPE SHEAR CONNECTORS FOR COMPOSITE BEAMS

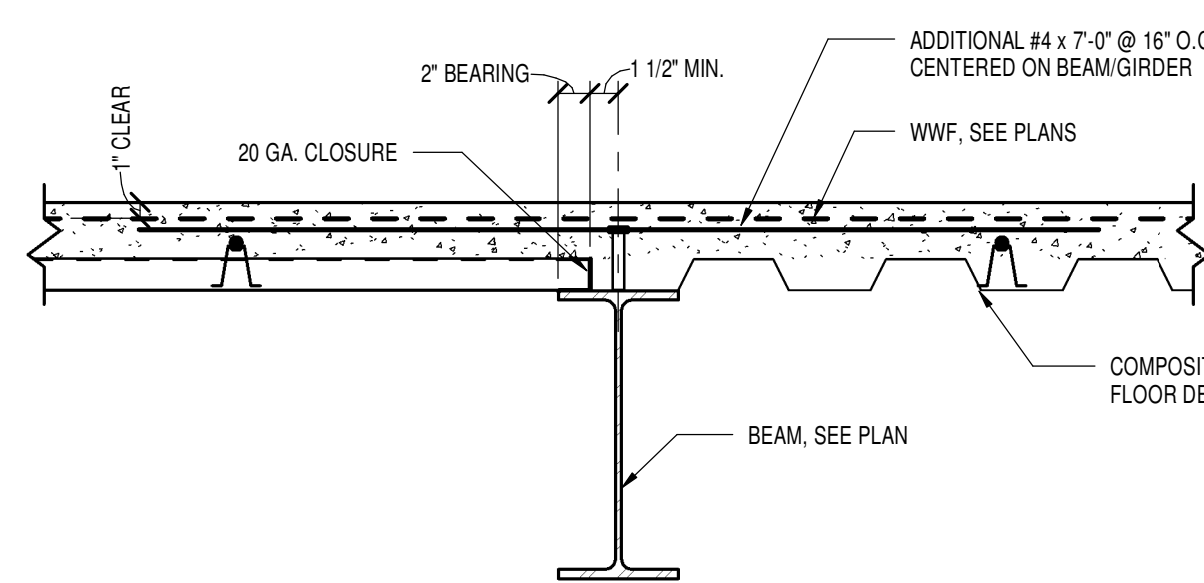
- STUD SIZE AND HEIGHT AFTER WELDING:
A. 2" DECK, 3/4" DIA. x 0'-4"
- WHEN A SINGLE NUMBER IN PARENTHESIS (N) IS INDICATED ON THE FRAMING PLAN BESIDE A BEAM OR GIRDER, THAT NUMBER IS THE QUANTITY OF SHEAR STUDS TO BE PLACED ALONG THE BEAM LENGTH WHEN MORE THAN ONE NUMBER IN PARENTHESIS (N1, N2, N3) ETC. IS SHOWN BESIDE A BEAM OR GIRDER, EACH NUMBER INDICATES THE NUMBER OF SHEAR STUDS TO BE PLACED WITHIN THAT SEGMENT OF THE BEAM OR GIRDER (I.E. SEGMENTS OF GIRDER AS DEFINED BY THE INTERSECTING BEAMS).
- WHEN DECK RIBS ARE PARALLEL AND THE STUD SPACING IS UNIFORM, SPACE STUDS EQUALLY ALONG GIRDER CENTERLINE.
- WHEN THE DECK RIBS ARE PARALLEL AND THE STUD SPACING IS SEGMENTED, SPACE STUDS EQUALLY ALONG THE GIRDER CENTERLINE OVER THAT SEGMENT. WHEN THE SPACING OF A SINGLE ROW OF STUDS BECOME LESS THAN 6", PROVIDE DOUBLE STUDS SPACED EQUALLY.
- CHALK BEAM CENTERLINE WHEN DECK SPAN IS PERPENDICULAR.
- PREPARE STUD PLACEMENT DRAWING AND INCLUDE:
1. TOTAL NUMBER OF STUDS REQUIRED FOR EACH BEAM.
2. LOCATION OF STUDS.
3. DIMENSION FROM BEAM OR COLUMN CENTERLINE.
DRAWING SHALL BE COMPLETE ENOUGH TO ALLOW INSTALLATION INDEPENDENT OF CONTRACT DRAWINGS. PROVIDE ARCHITECT/ENGINEER ONE (1) COPY FOR FILE.
7. ALL BEAMS WITH MOMENT CONNECTION ENDS AND BEAMS AT BRACED FRAMES SHALL HAVE STUDS SPACED AT 3'-0" O.C., UNO.



DECKING PERPENDICULAR TO BEAM



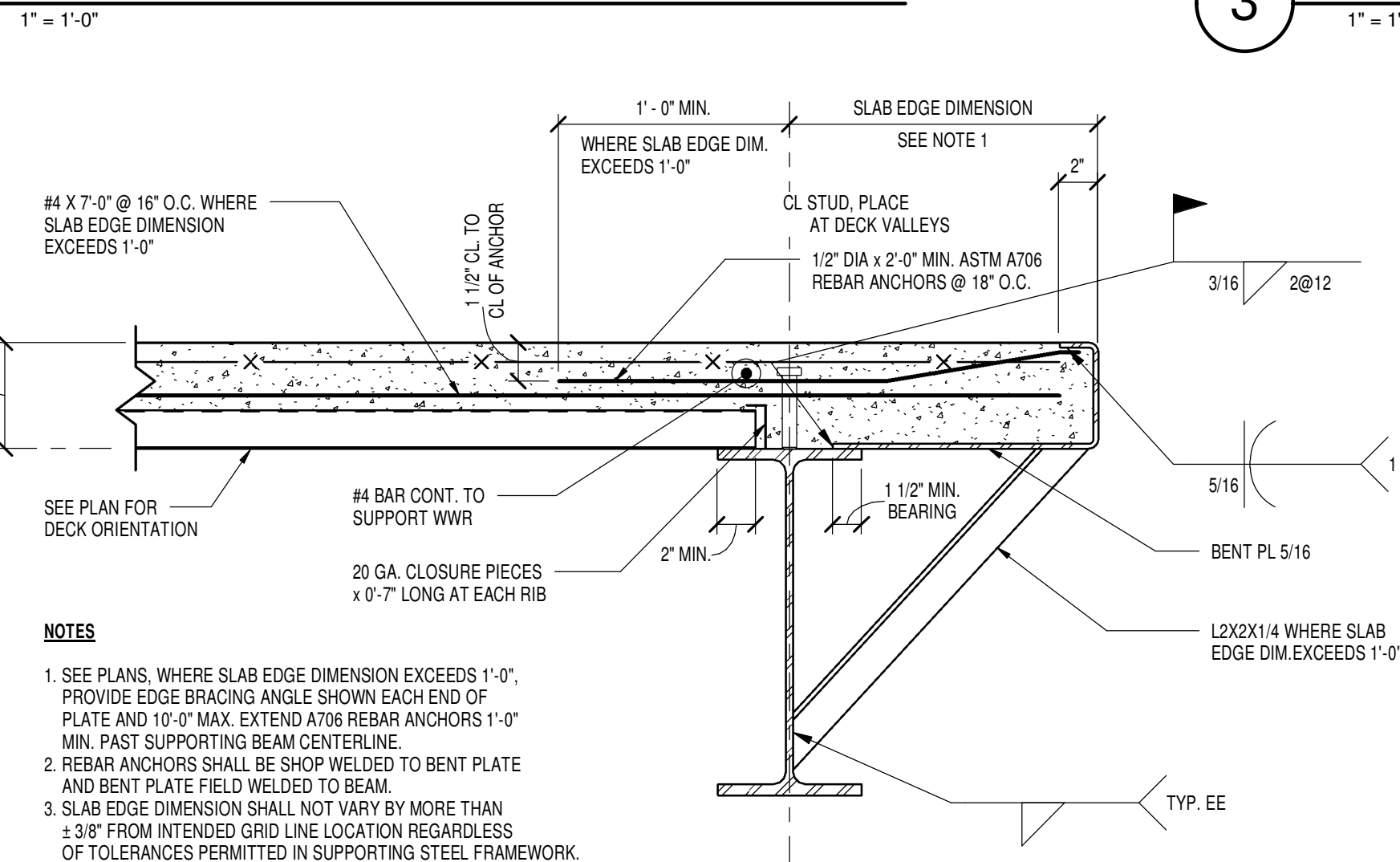
DECKING PARALLEL TO BEAM



WHERE DECKING CHANGES DIRECTION AT FLANGE WIDTH > 5"

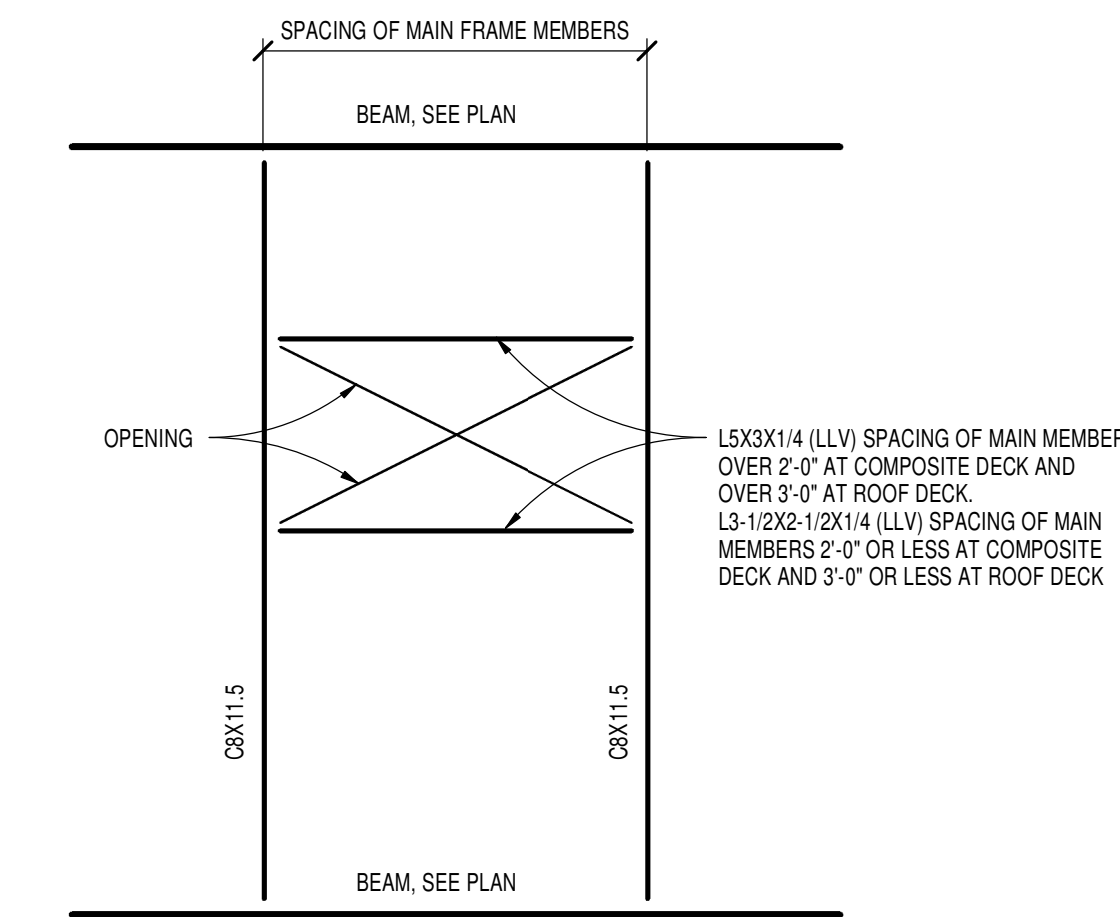
AT FLANGE WIDTH < 5"

2 TYPICAL COMPOSITE SLAB REINFORCING



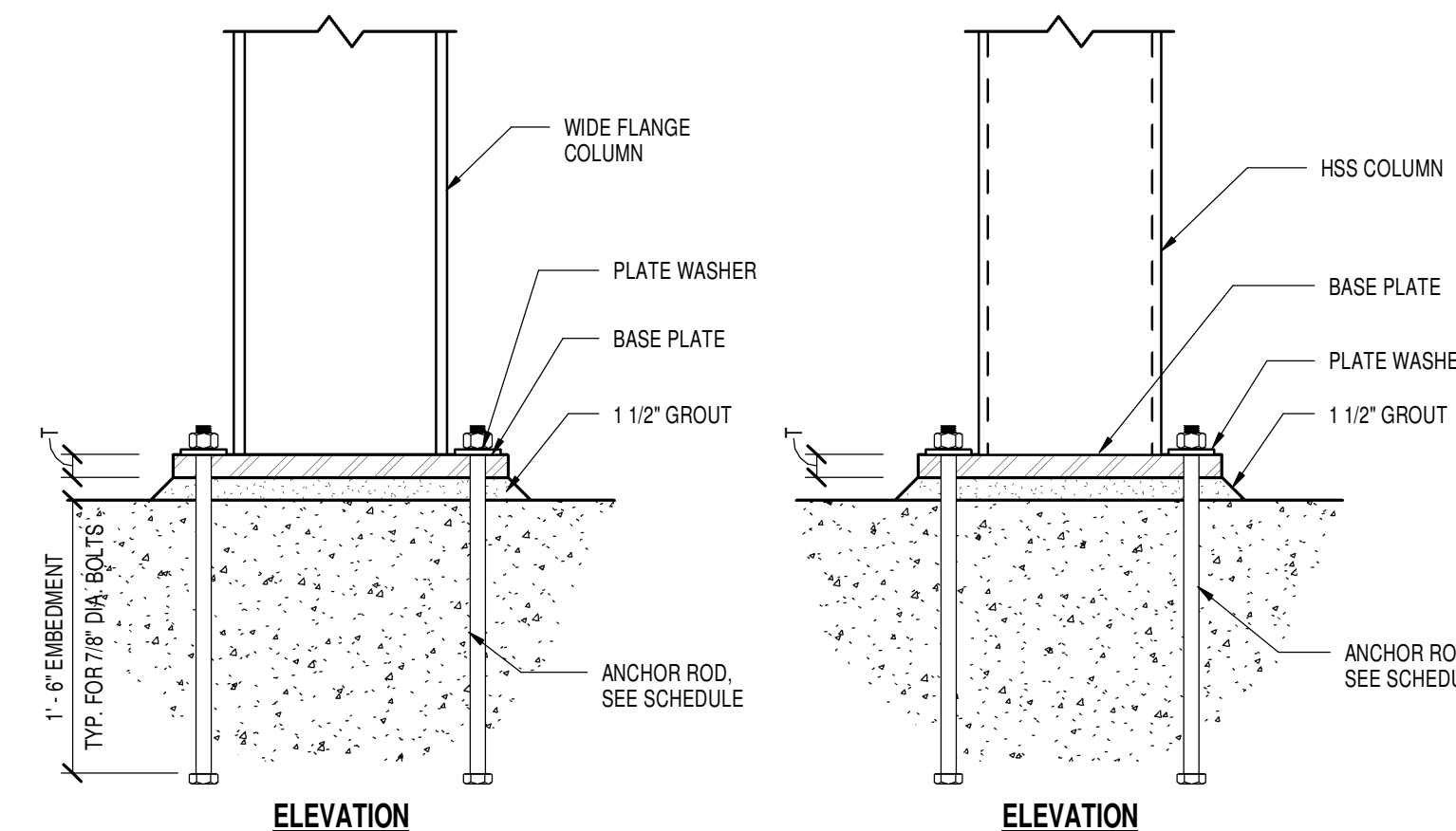
NOTES:

- SEE PLANS, WHERE SLAB EDGE DIMENSION EXCEEDS 1'-0", PROVIDE EDGE BRACING ANGLE SHOWN EACH END OF PLATE AND 10'-0" MAX. EXTEND A706 REBAR ANCHORS 1'-0" MIN. PAST SUPPORTING BEAM CENTERLINE.
- REBAR ANCHORS SHALL BE SHOP WELDED TO BENT PLATE AND BENT PLATE FIELD WELDED TO BEAM.
- SLAB EDGE DIMENSION SHALL NOT VARY BY MORE THAN 3/8" FROM INTENDED GRID LINE LOCATION REGARDLESS OF TOLERANCES PERMITTED IN SUPPORTING STEEL FRAMEWORK.



NOTES:

- AT OPENINGS LESS THAN 6" IN EACH DIRECTION, NO REINFORCEMENT OF DECK IS REQD.
- AT OPENINGS OF 6" TO 12" IN EITHER DIRECTION, REINFORCE OPENING IN ROOF DECK WITH AN ADDITIONAL SHEET OF MATCHING DECK MATERIAL AT LEAST 18" LARGER THAN OPENING IN BOTH DIRECTIONS. ATTACH ADDITIONAL SHEET TO DECK WITH #10 SCREWS @ 5" EACH WAY.
- AT OPENINGS OF 6" TO 12" IN EITHER DIRECTION IN COMPOSITE DECK REINFORCE OPENING WITH 2 #4 BARS IN EACH DIRECTION, EACH SIDE OF OPENING. IN THE DIRECTION OF DECK SPAN, PLACE ONE BAR 4'-6" LONG IN THE FIRST AND SECOND RIB EACH SIDE OF THE OPENING. 3/4" CLEAR FROM BOTTOM OF DECK. IN DIRECTION TRANSVERSE TO DECK SPAN, PLACE 3'-6" LONG BARS 3" CLEAR OF OPENING AND 4" O.C. DIRECTLY OVER TOP OF WWF. CENTER ALL BARS ON CENTER OF OPENING. AT OPENING OF 6" TO 12" IN EITHER DIRECTION WITH FANS, BOILER STACKS OR OTHER EQUIPMENT SUPPORTED ON DECK AT OPENING, REINFORCE OPENINGS AS FOR OPENING LARGER THAN 12". SEE NOTE 4.
- FOR OPENINGS LARGER THAN 12" IN EITHER DIRECTION, FRAME OPENING WITH ANGLES AS SHOWN ABOVE.
- OPENINGS THRU CONCRETE SLAB ON COMPOSITE DECK SHALL BE FORMED OR SLEEVED BEFORE PLACING CONCRETE. EXCEPT WHERE OPENING IS FRAMED WITH ANGLES, DO NOT CUT OPENING THRU COMPOSITE DECK UNTIL AFTER CONCRETE IS PLACED AND CURED.
- AT MULTIPLE OPENINGS LESS THAN 6" PROVIDE MINIMUM 6" CLEAR BETWEEN OPENINGS OR CONSIDER AS OPENING OF WIDTH EQUAL TO OVERALL WIDTH FROM OUTSIDE FACES OF OPENINGS.



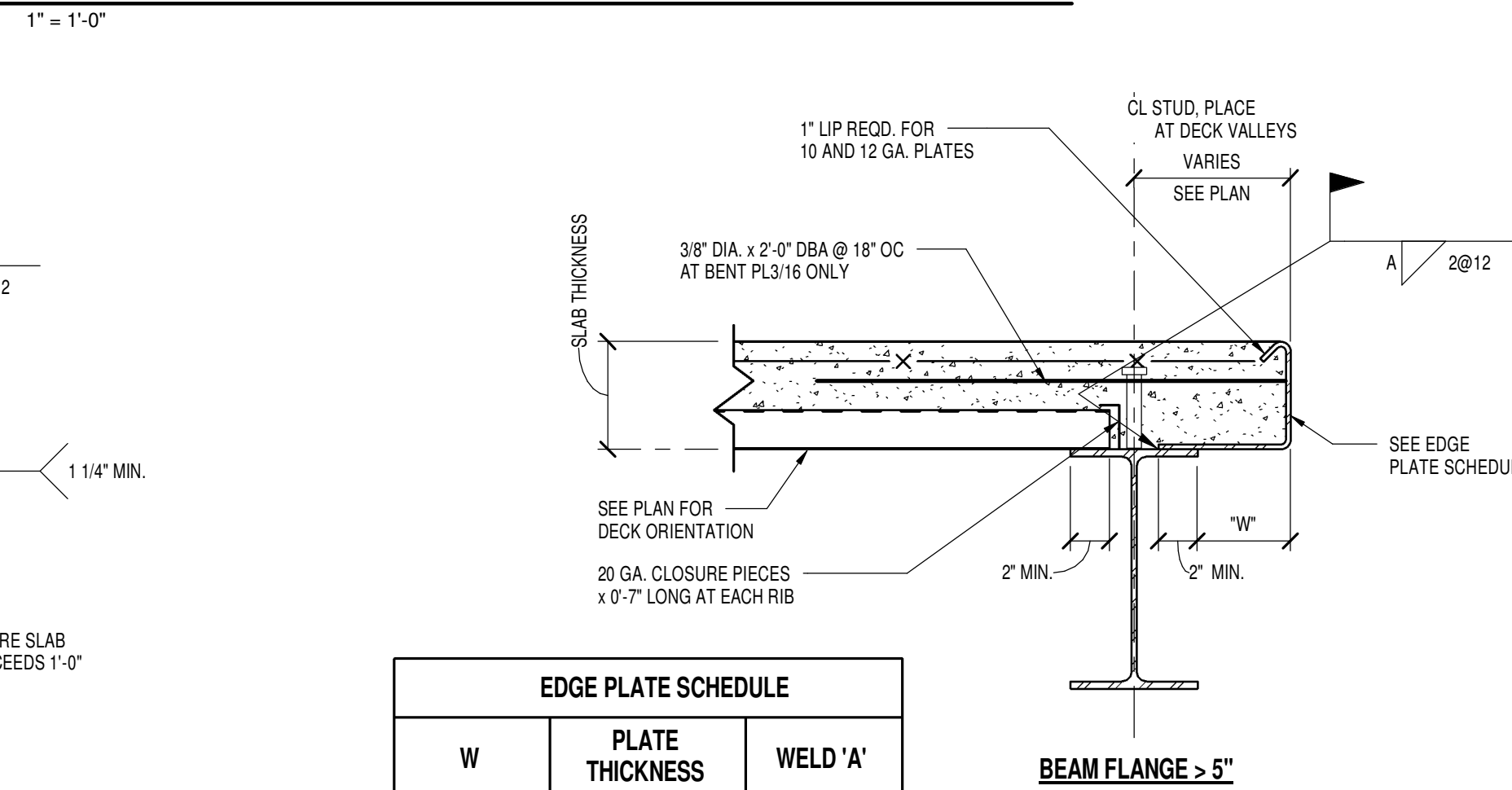
ELEVATION

ELEVATION

PLAN - WIDE FLANGE SHAPE

PLAN - HSS SHAPE

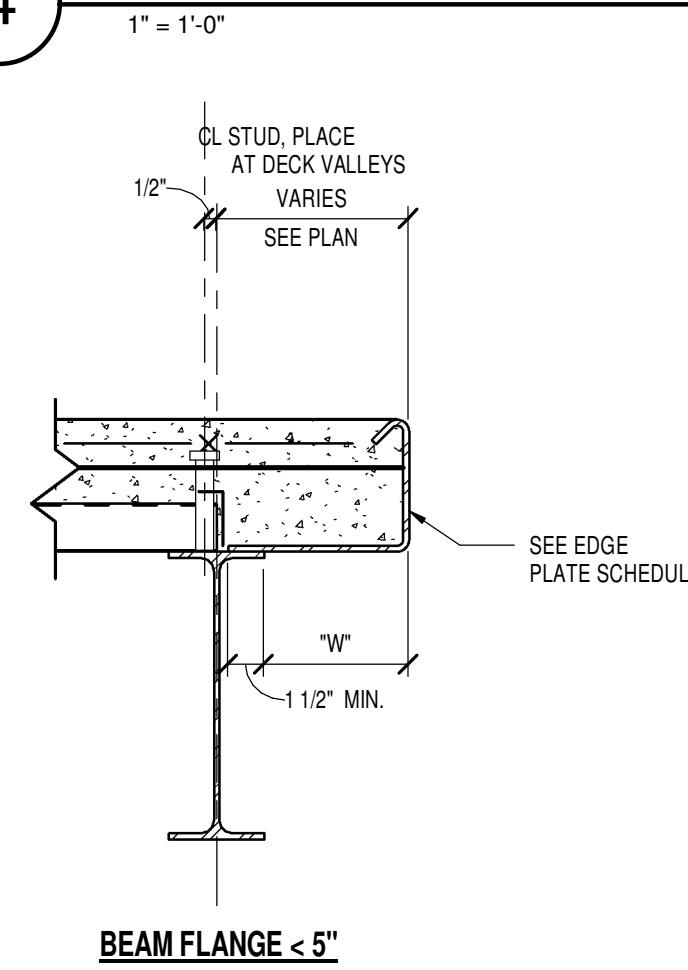
3 ROOF AND COMPOSITE FLOOR OPENING DETAIL



EDGE PLATE SCHEDULE

W	PLATE THICKNESS	WELD 'A'
0" TO 4"	12 GAGE	1/8"
4" TO 8"	10 GAGE	1/8"
OVER 8"	PL 5/16	3/16"

4 TYPICAL COLUMN BASE PLATE DETAIL



5 TYPICAL EXTERIOR SLAB EDGE DETAIL



NOTES:

- METAL DECK NOT SHOWN FOR CLARITY. SEE PLAN FOR TYPE AND DIRECTION OF SPAN.
- PROVIDE TYPICAL ANGLE TO SUPPORT DECK AT EXTERIOR AND INTERIOR COLUMNS WHERE BEAMS ARE NOT PRESENT.
- PROVIDE SHEET METAL DECK CLOSURE PIECE TO PREVENT CONCRETE LEAKAGE AT COLUMNS.
- DECK SUPPORT ANGLES NOT SHOWN ON OTHER SECTION FOR CLARITY.

6 TYPICAL INTERIOR SLAB EDGE DETAIL



7 TYPICAL DECK SUPPORT AT COLUMNS

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ARCHITECT/ENGINEERS:

ARCHITECTURE
ENGINEERING
INTERIOR DESIGN
DESIGN/BUILD

ASTORINO

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Drawing Title

**TYPICAL STEEL SECTIONS
AND DETAILS**

Approved: Project Director

Project Title
**VA CARES CONSOLIDATION
VAMC, PITTSBURGH, PA,
RESEARCH OFFICE BLDG.**

Location
VAPHS UNIVERSITY DRIVE

Date
08-18-2010

Checked
JHC

Drawn
RAW

Project Number
646CA2500R

Building Number
30

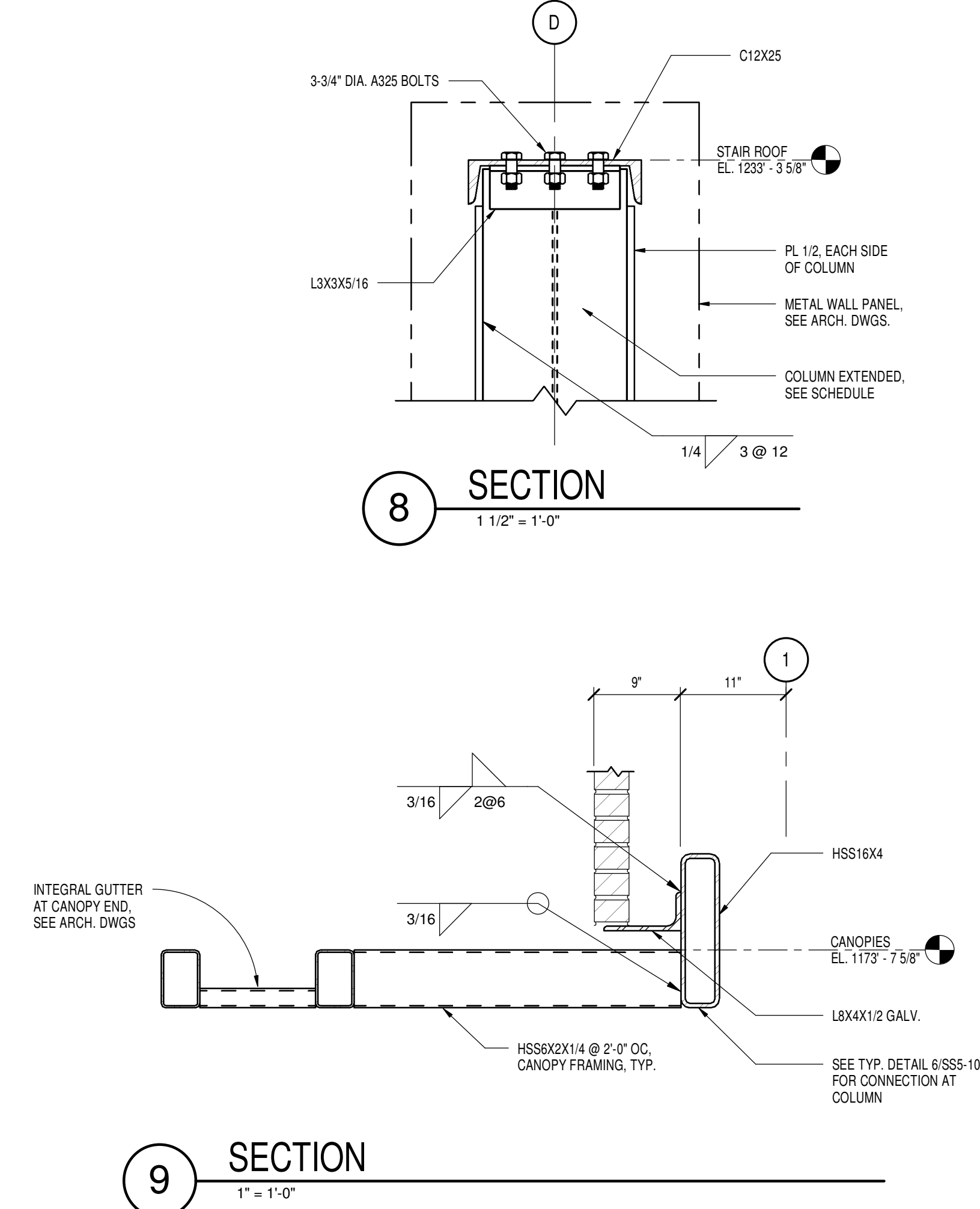
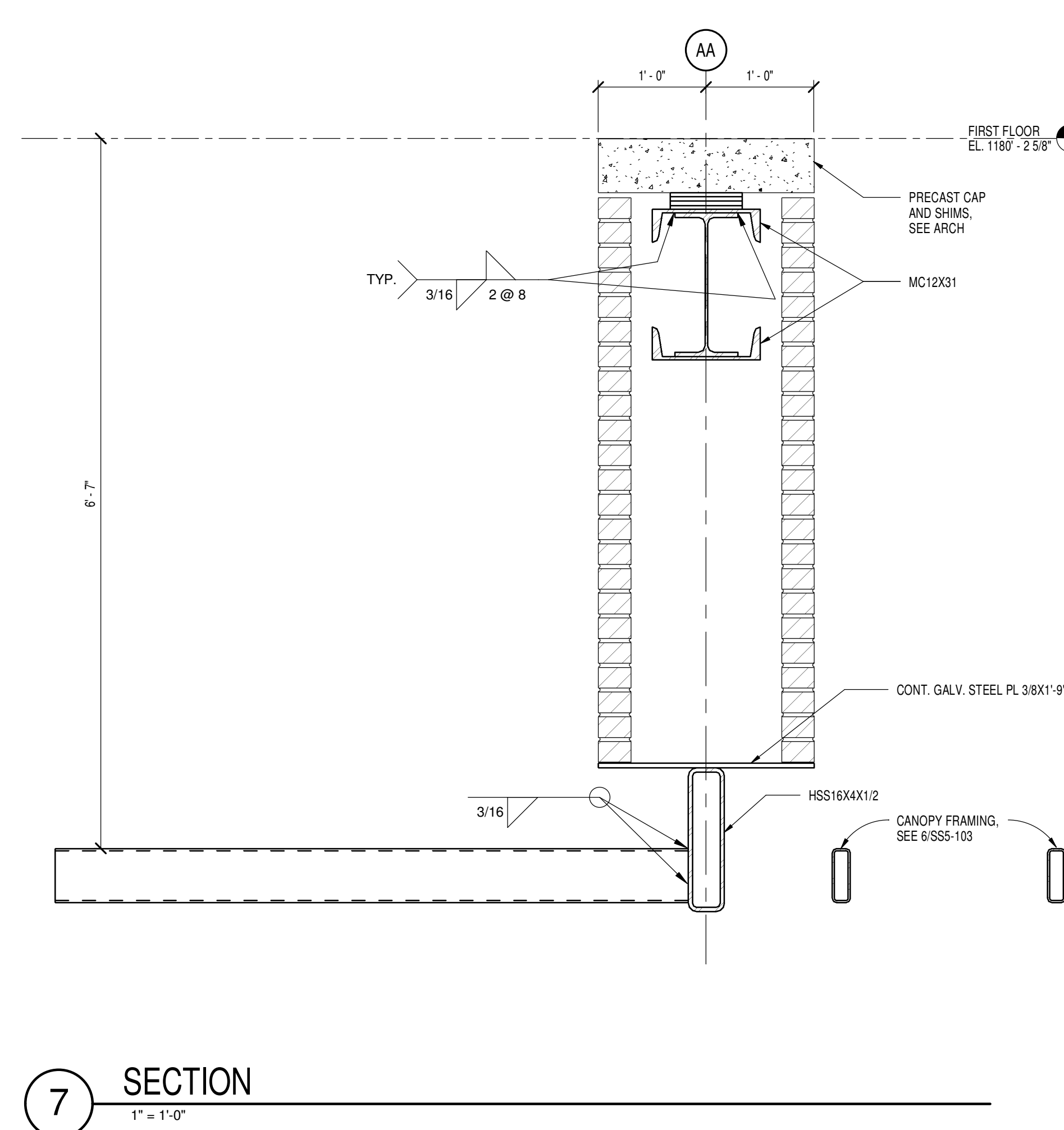
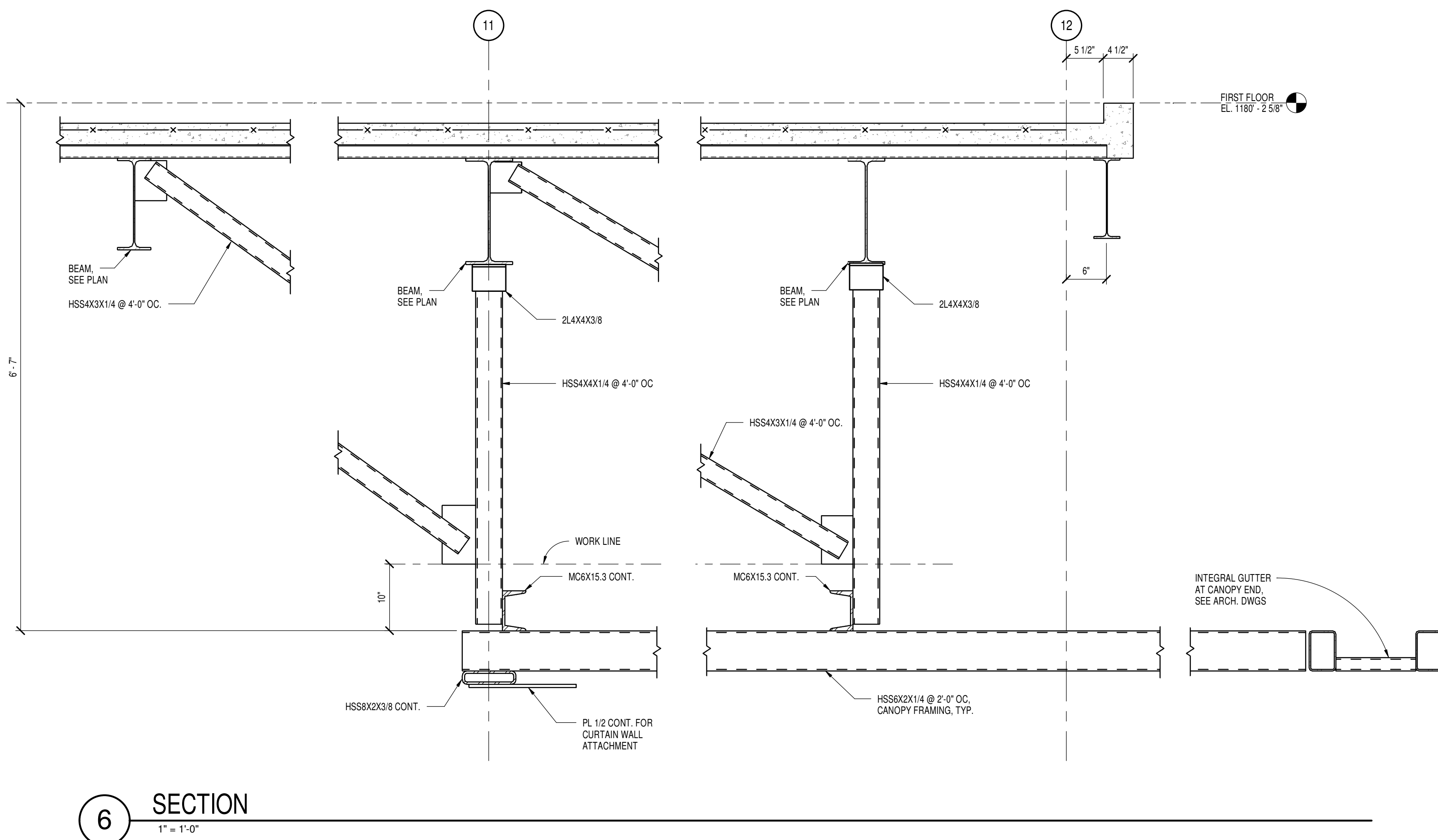
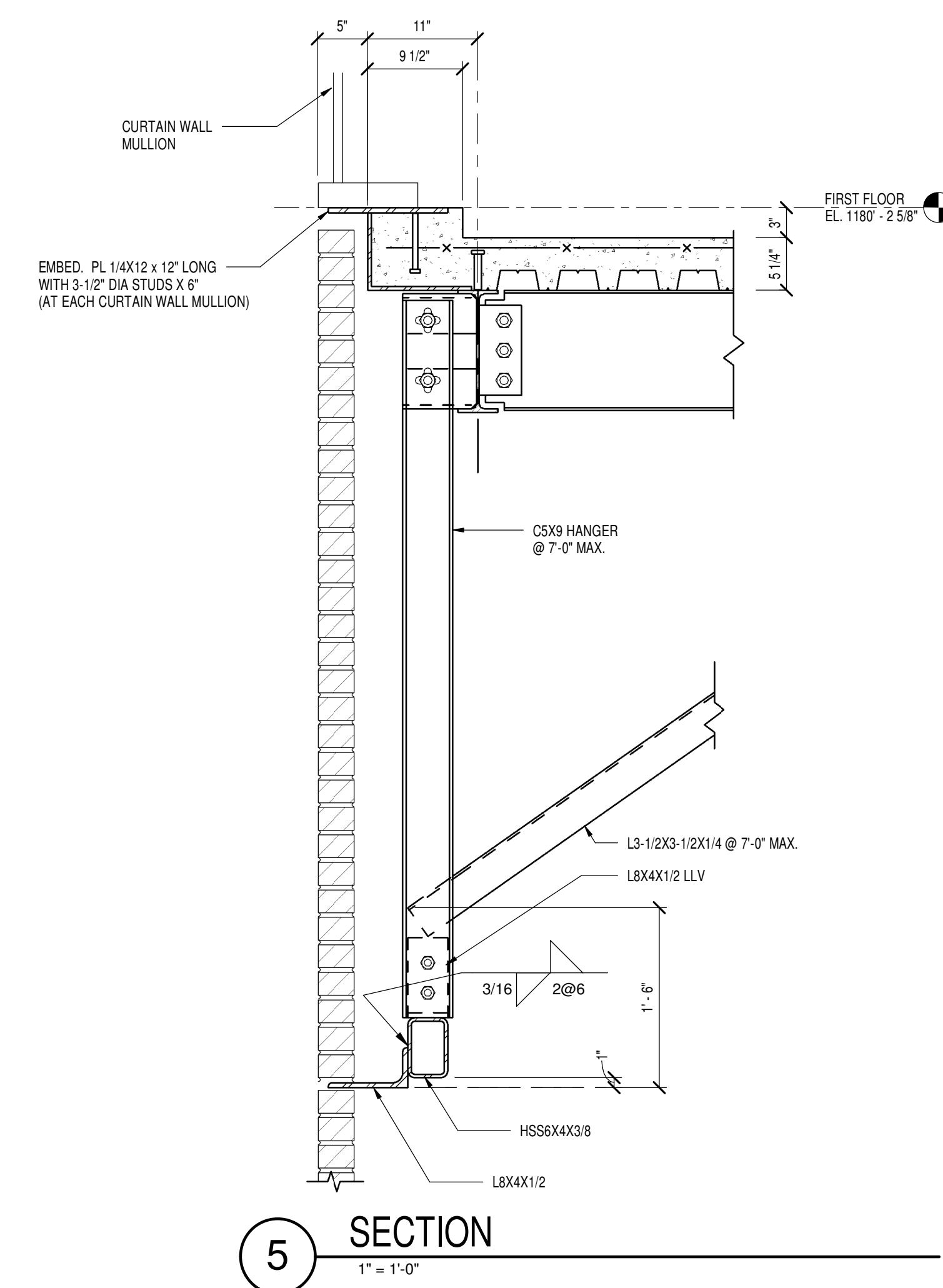
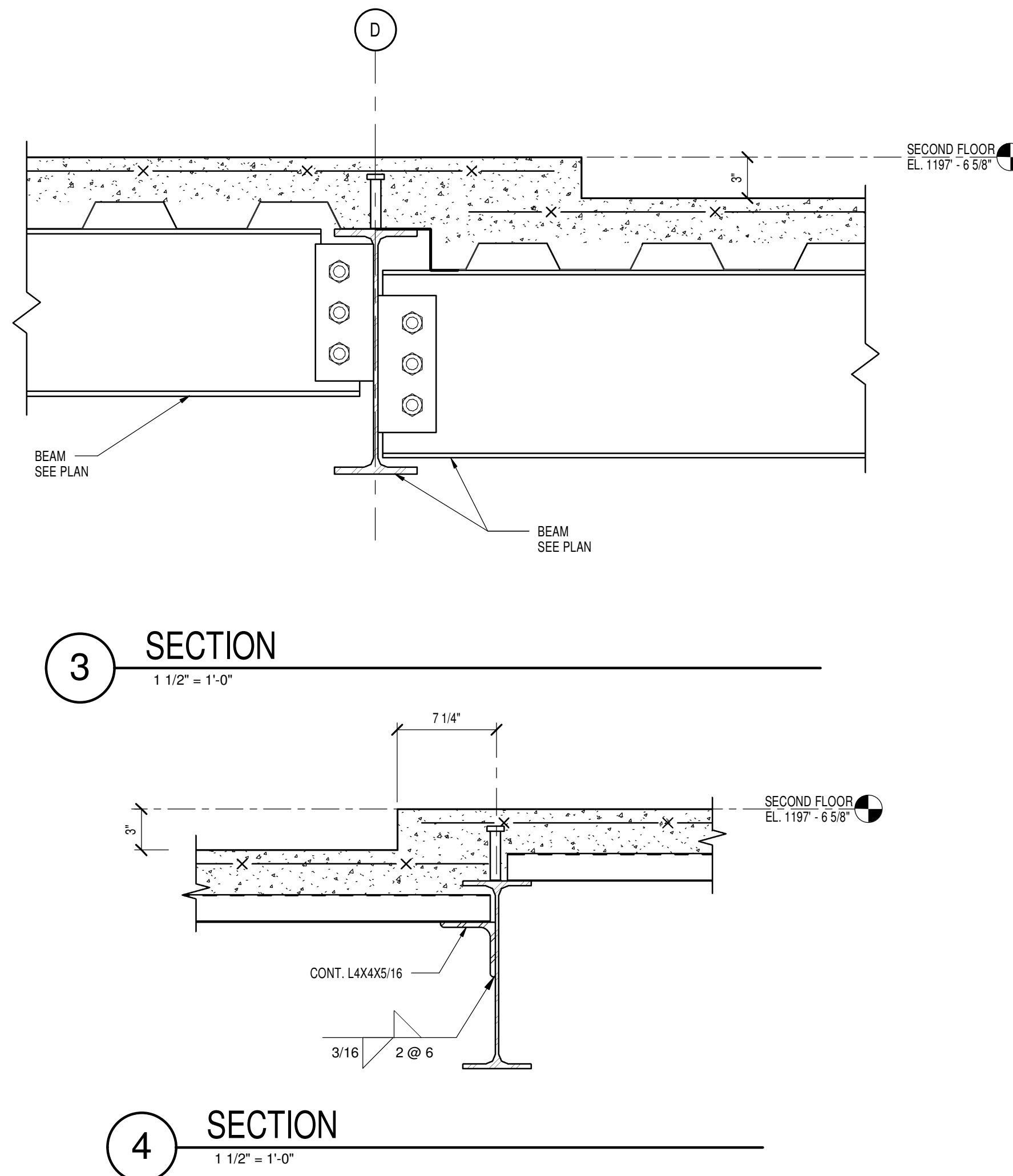
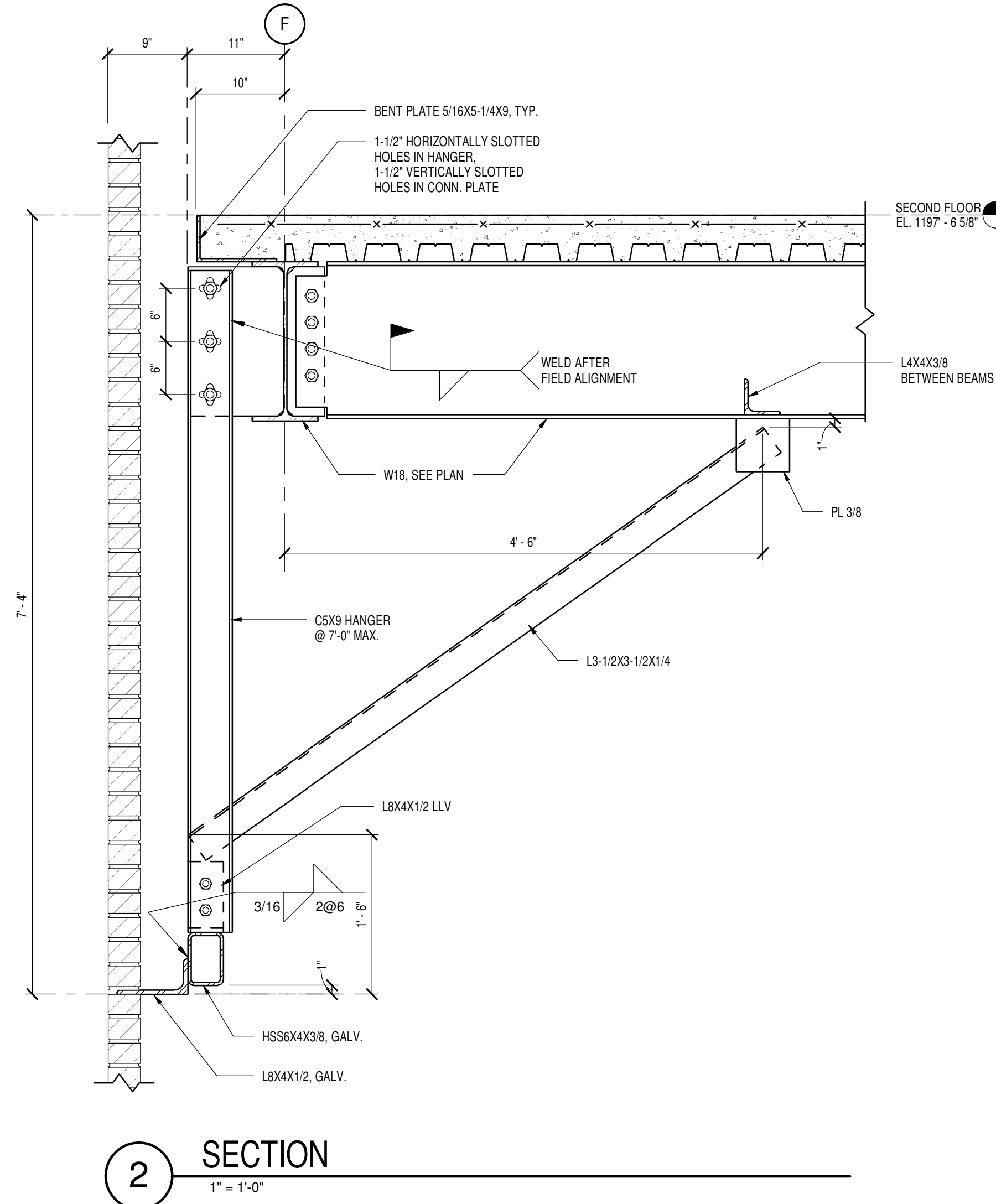
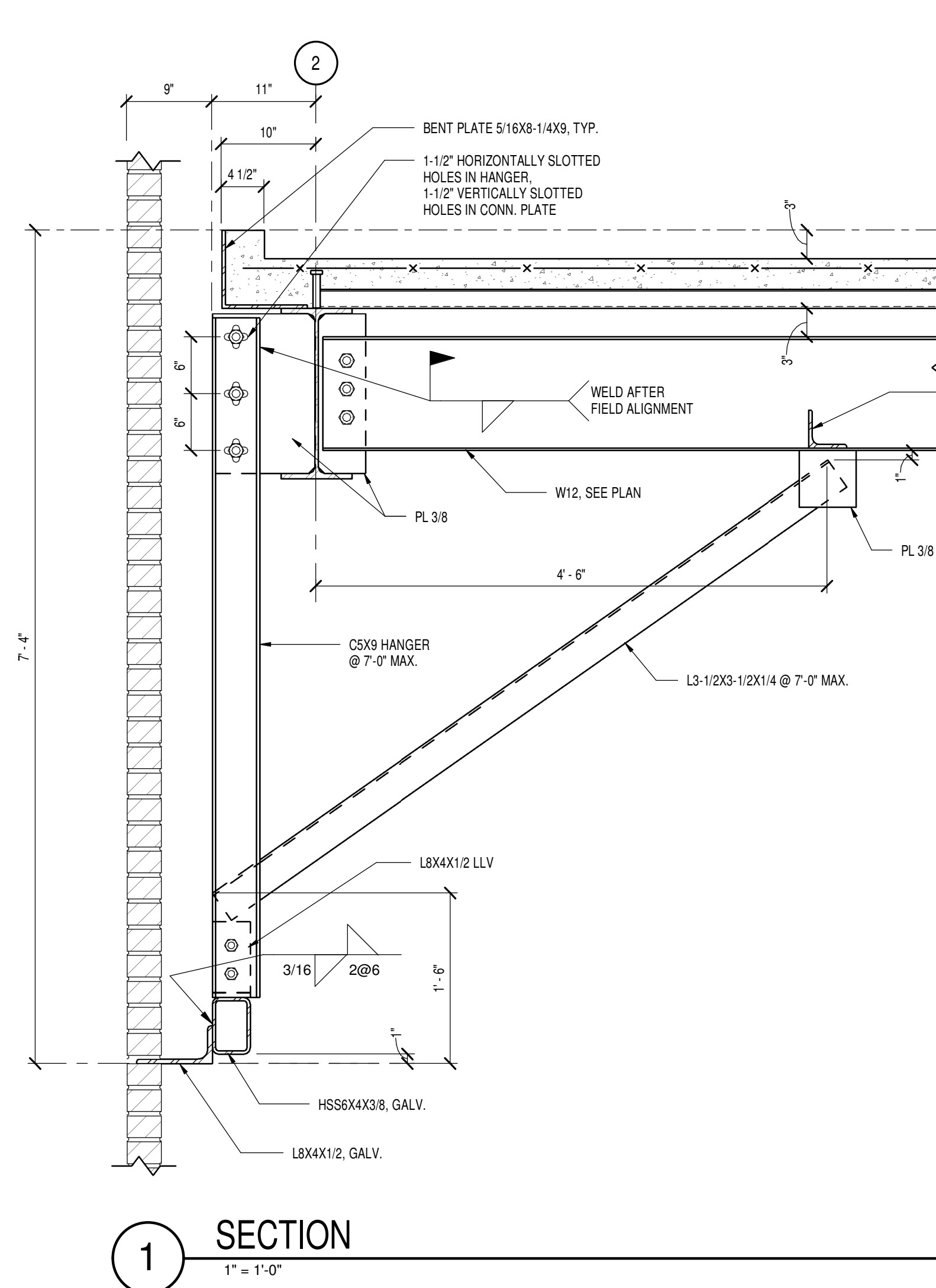
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SS5-102

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Veterans Affairs

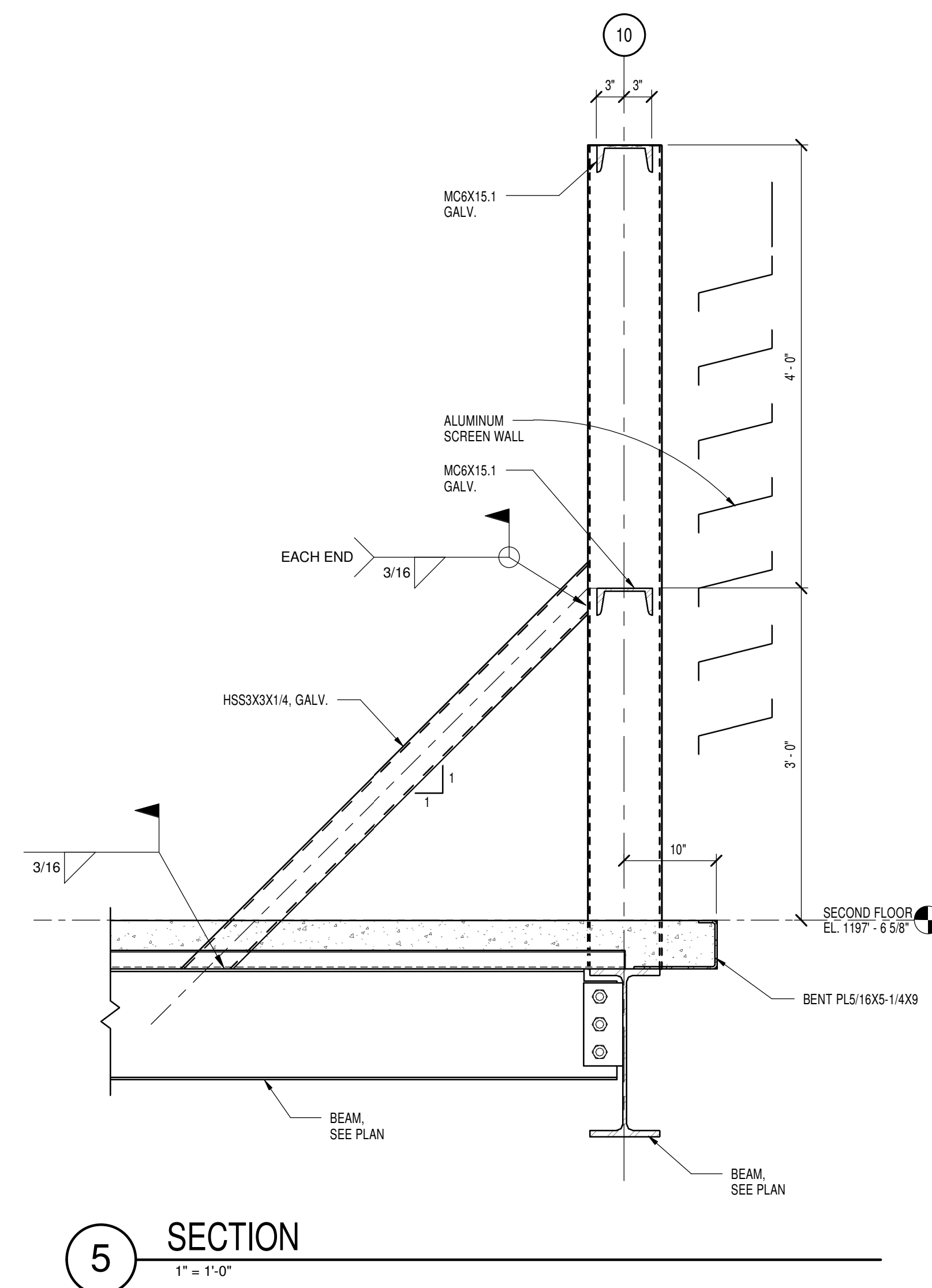
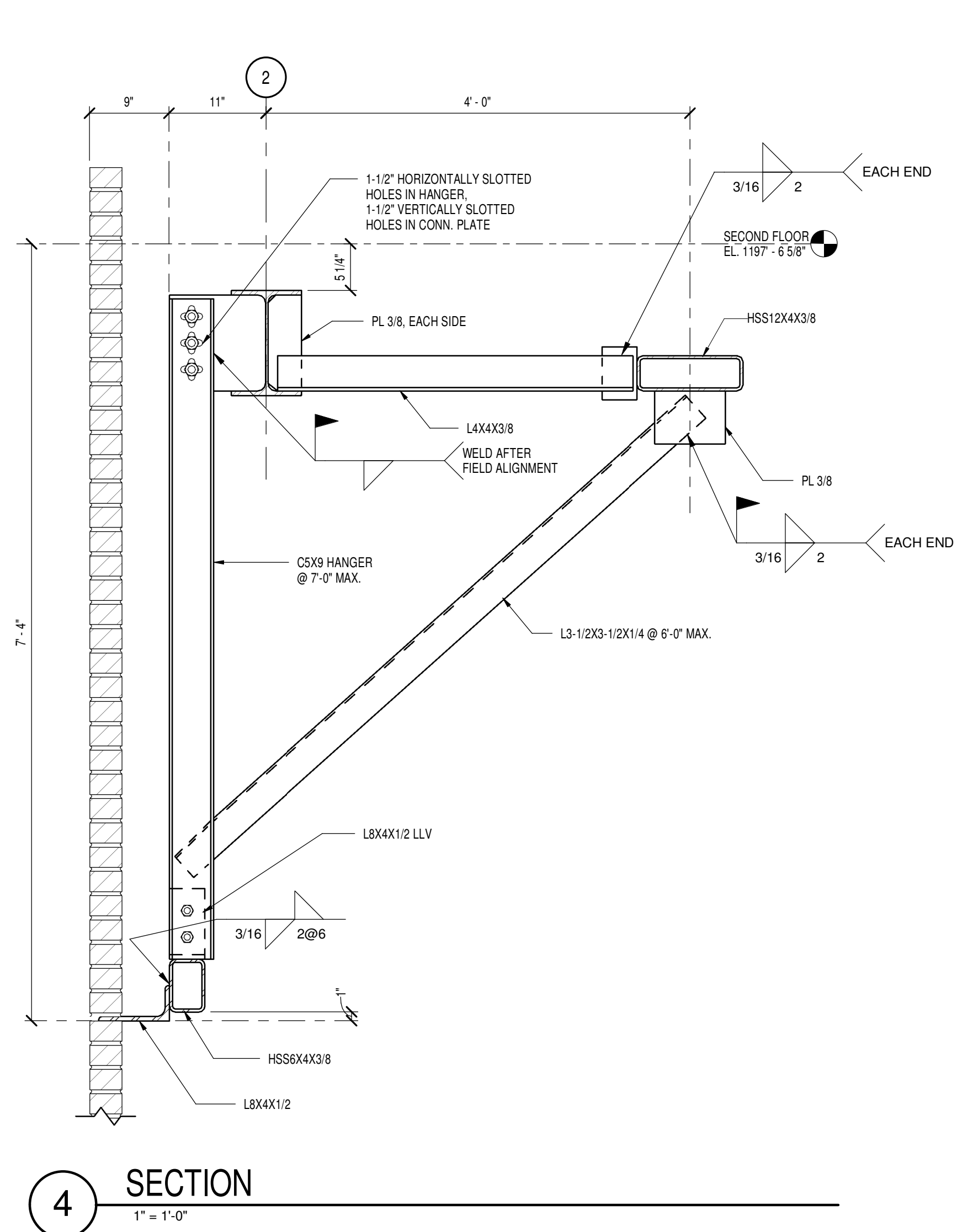
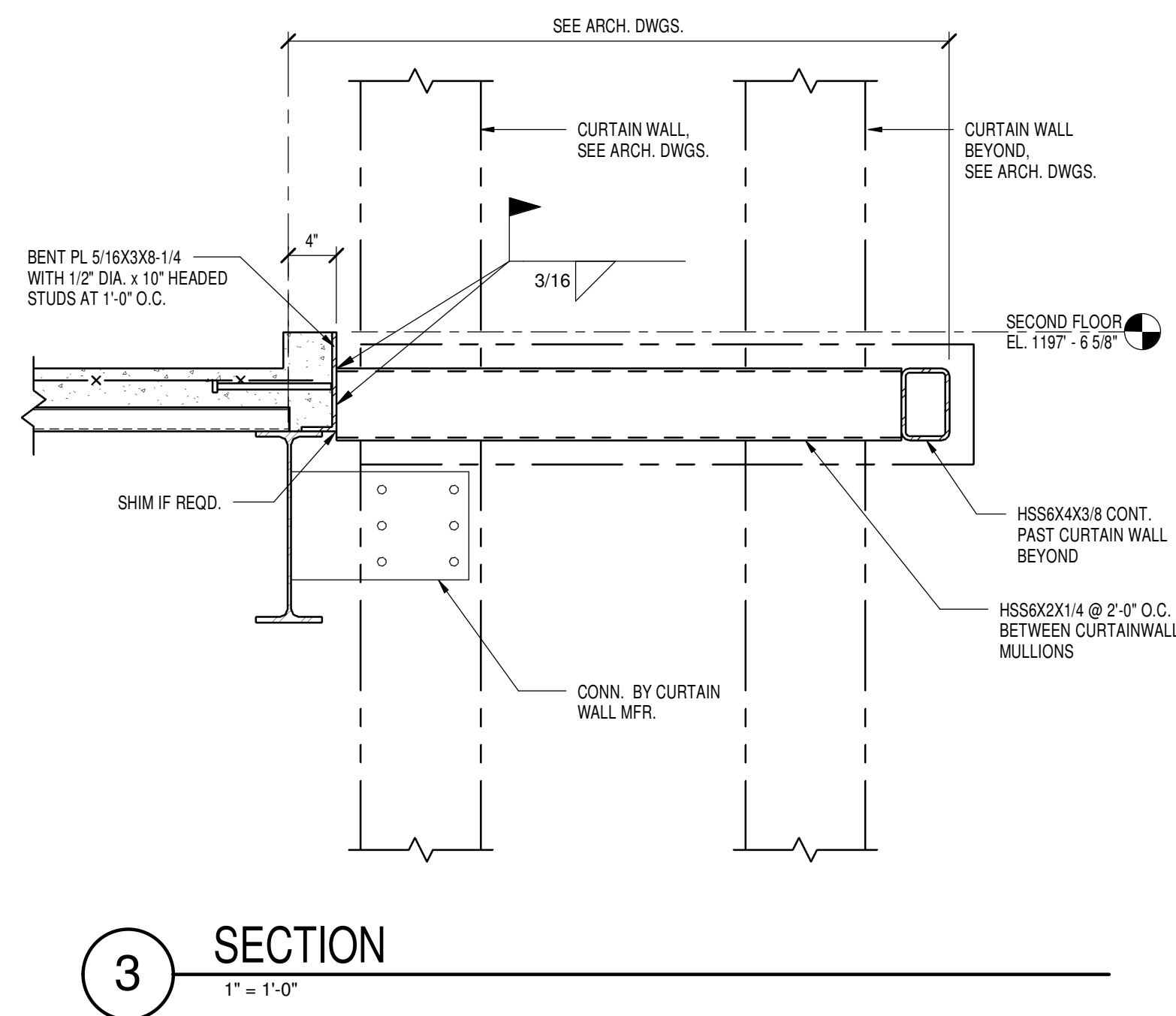
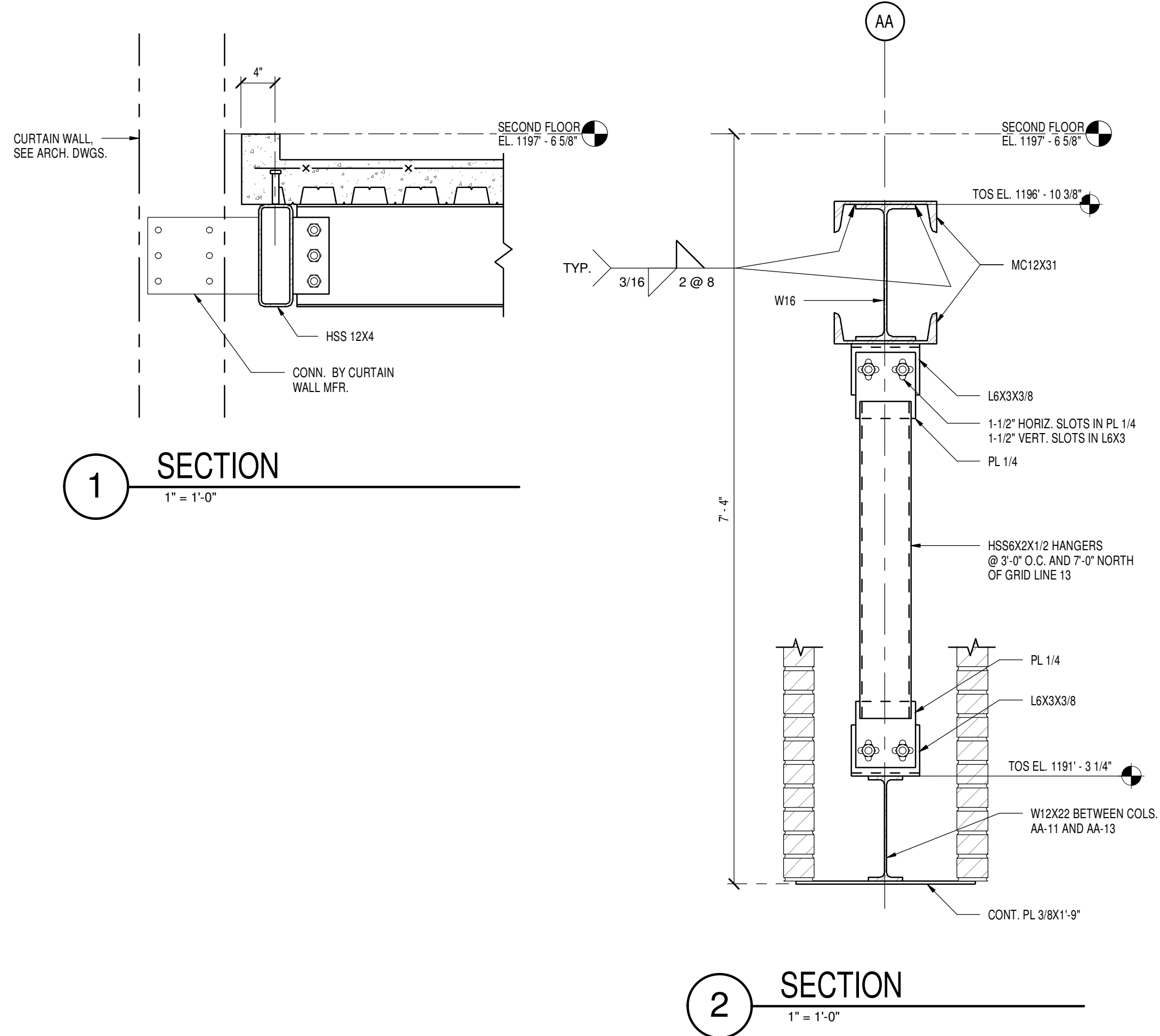
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FOR CONSTRUCTION
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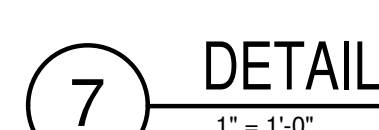
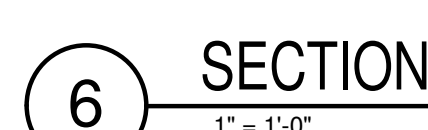
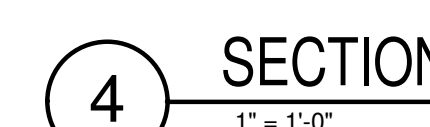
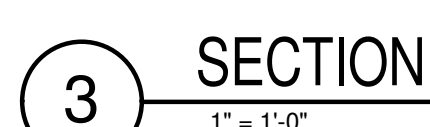
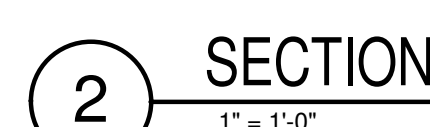
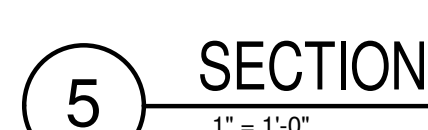
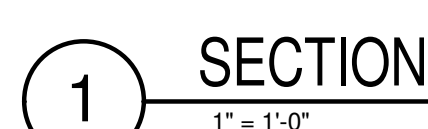
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Revisions: Date		Project Number 646CA2500R Building Number 30 Drawing Number SS5-103 Dwg. of							

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one quarter inch = one foot
one eighth inch = one foot



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FOR CONSTRUCTION
FULLY SPRINKLERED



CONSULTANTS:


HDR

HDR Architecture, Inc.

1101 King Street | Suite 400 | Alexandria, Virginia 22314-2944 | 703.518.8500

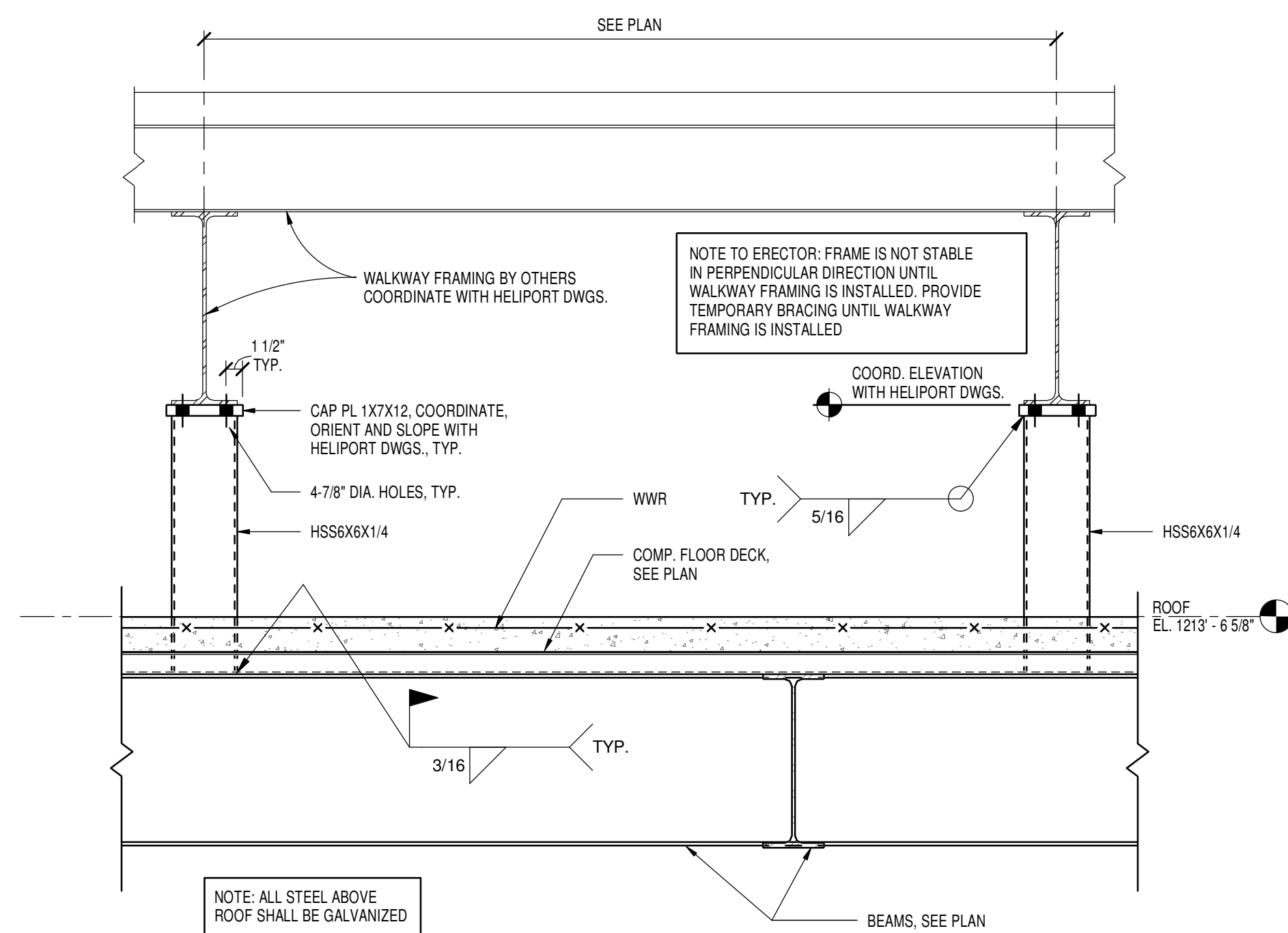
Drawing Title	
STEEL - SECTIONS AND DETAILS	
Approved: Project Director	

**Office of
Facilities
Management**

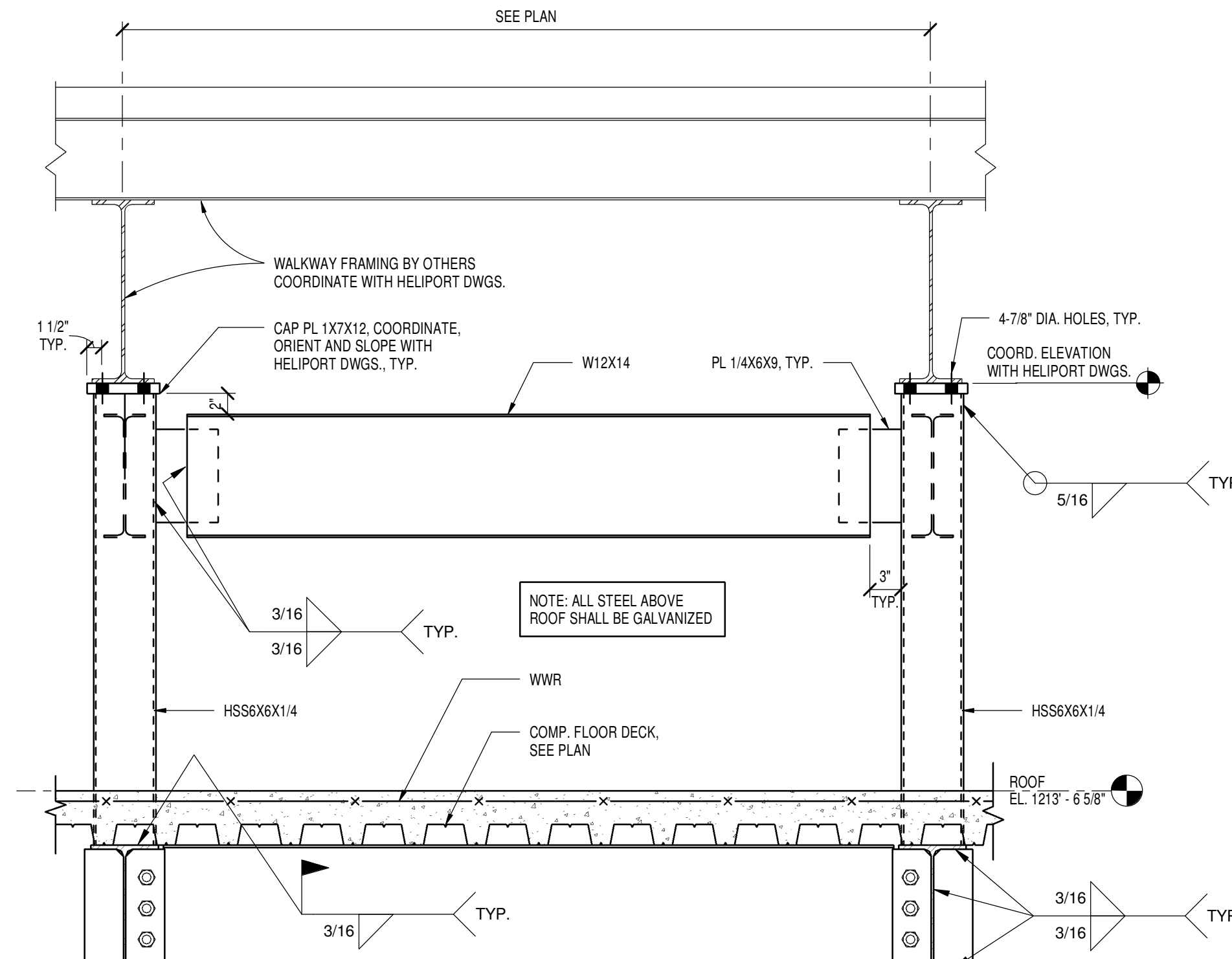
 **Department of
Veterans Affairs**

FOR CONSTRUCTION
FULLY SPRINKLERED

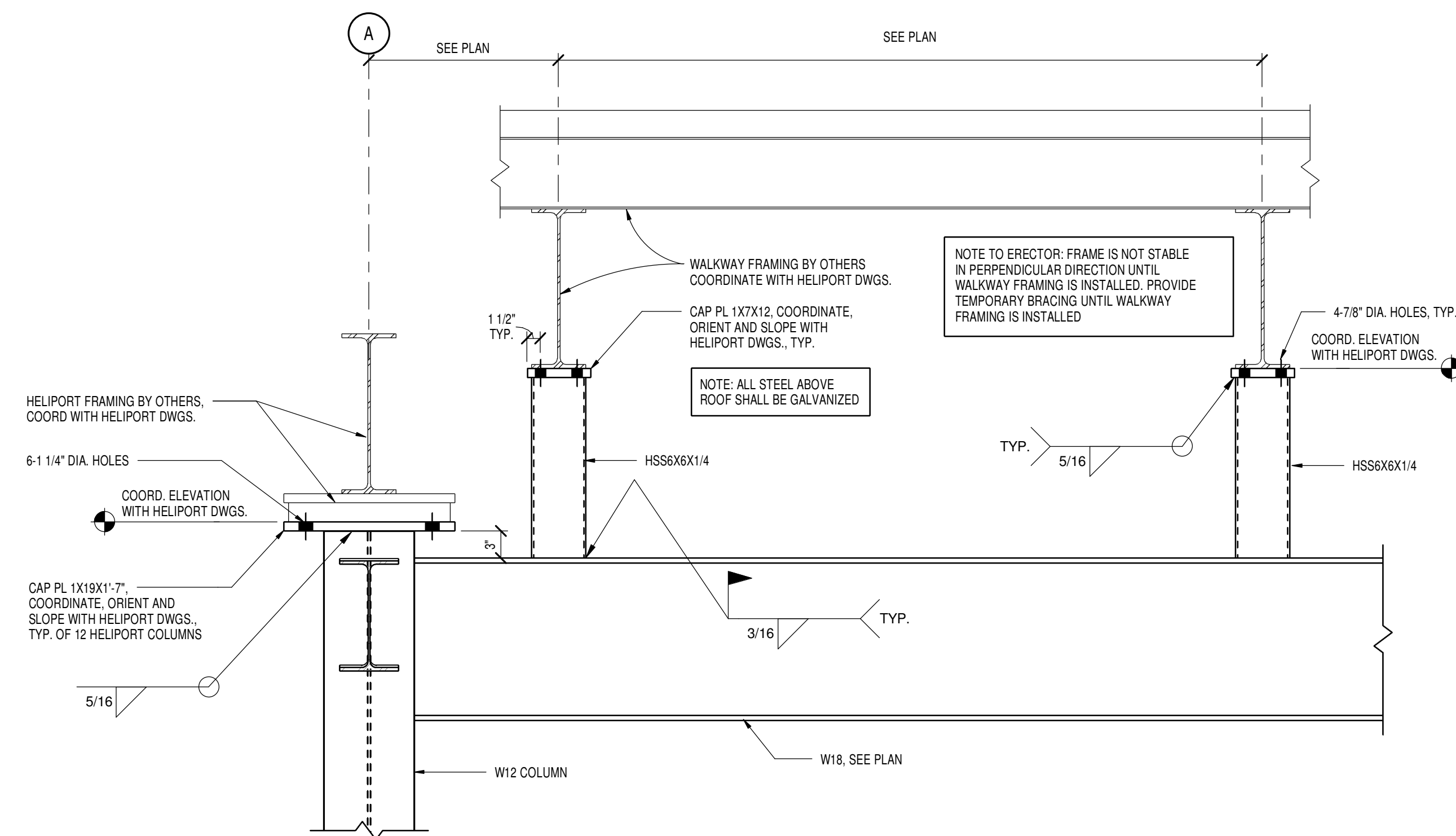
three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
one quarter inch = one foot
one eighth inch = one foot
one sixteenth inch = one foot



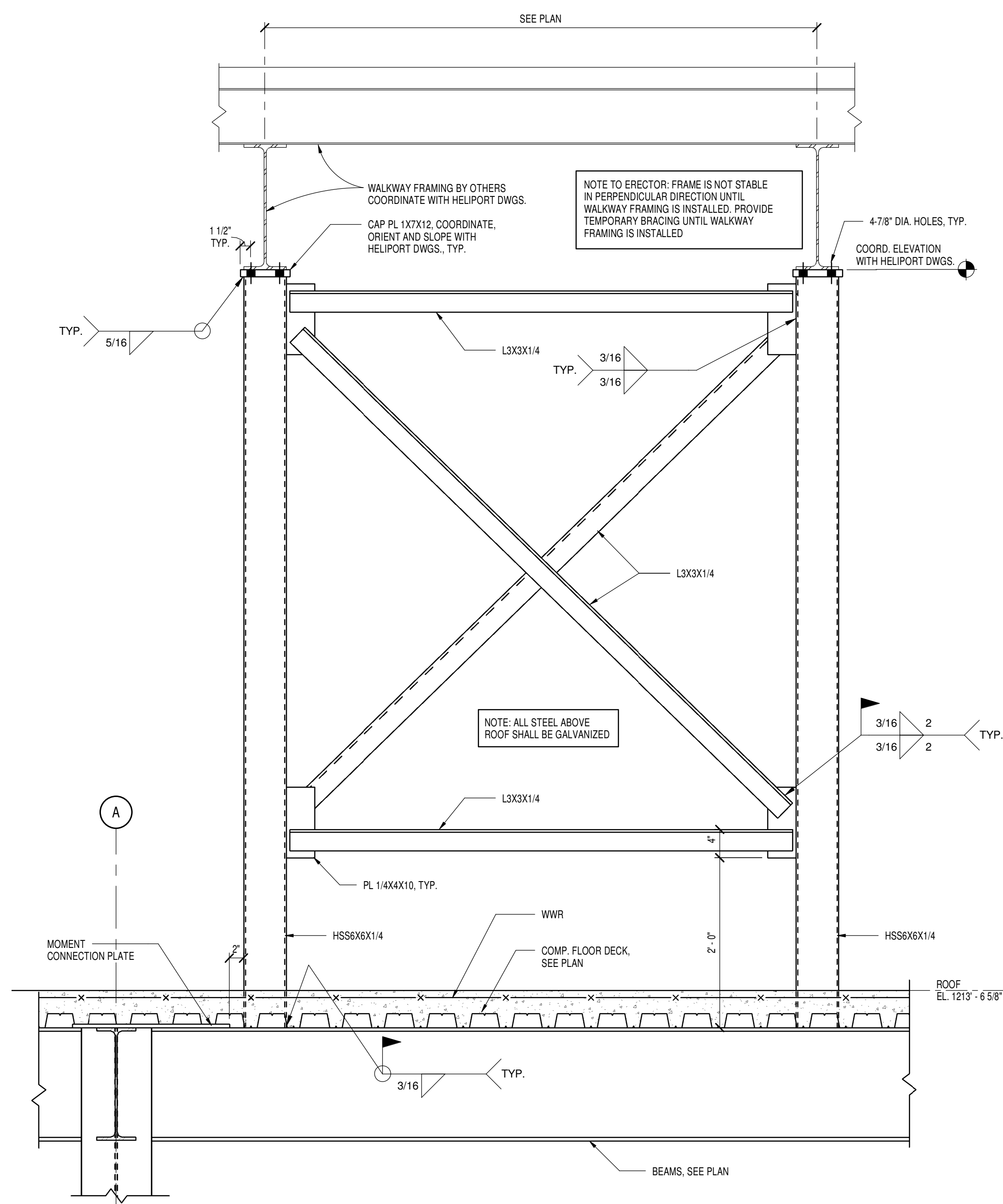
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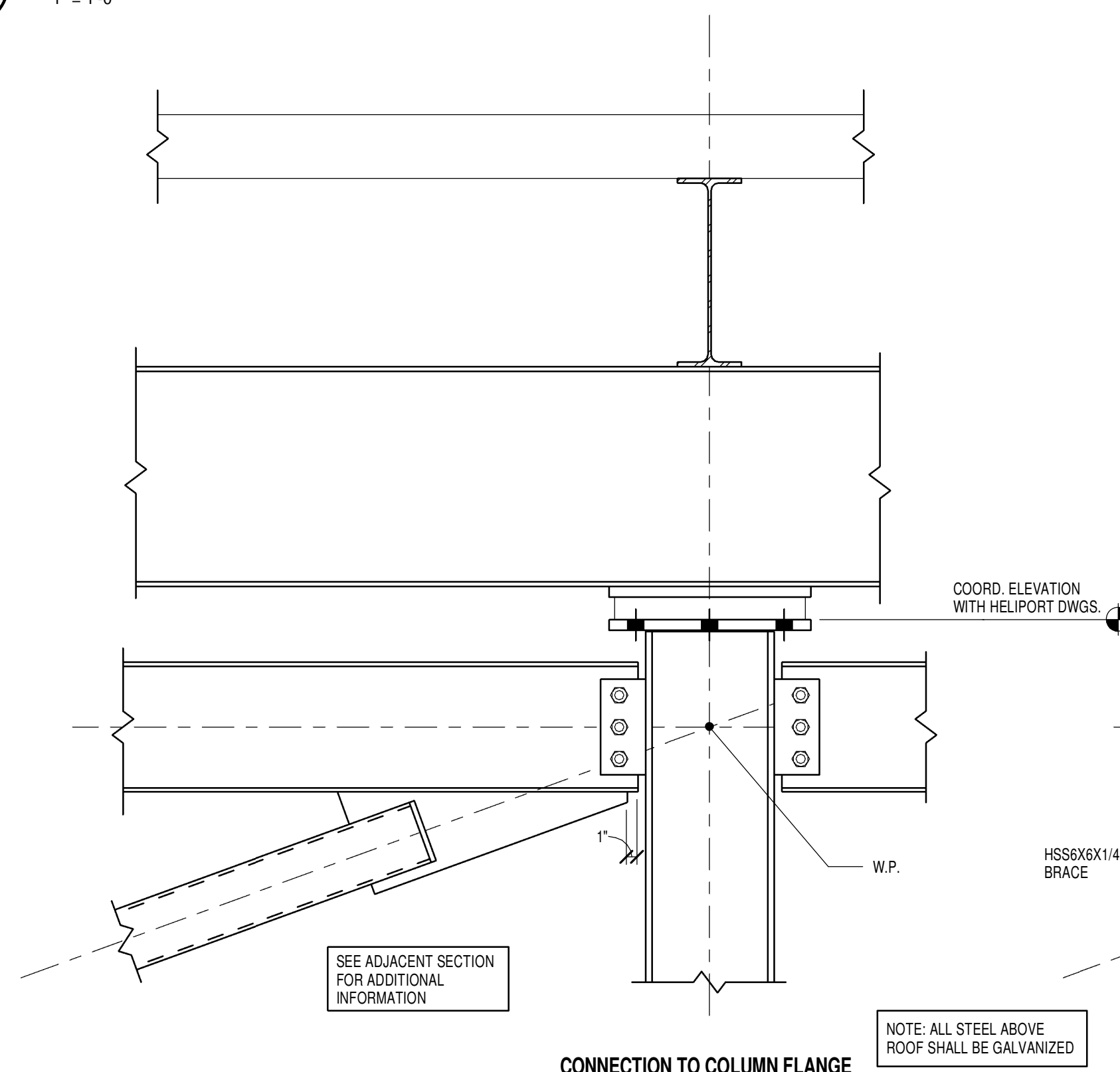
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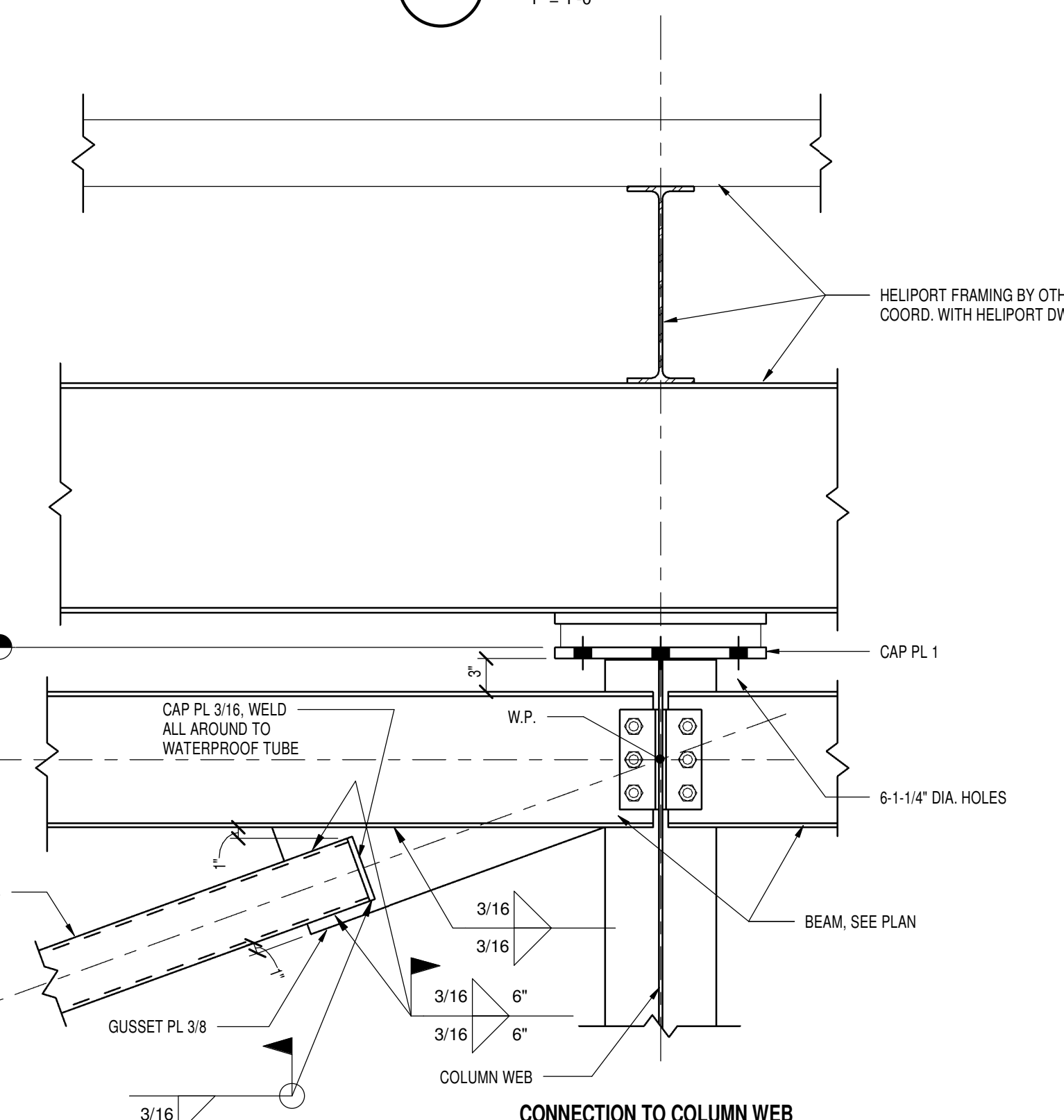
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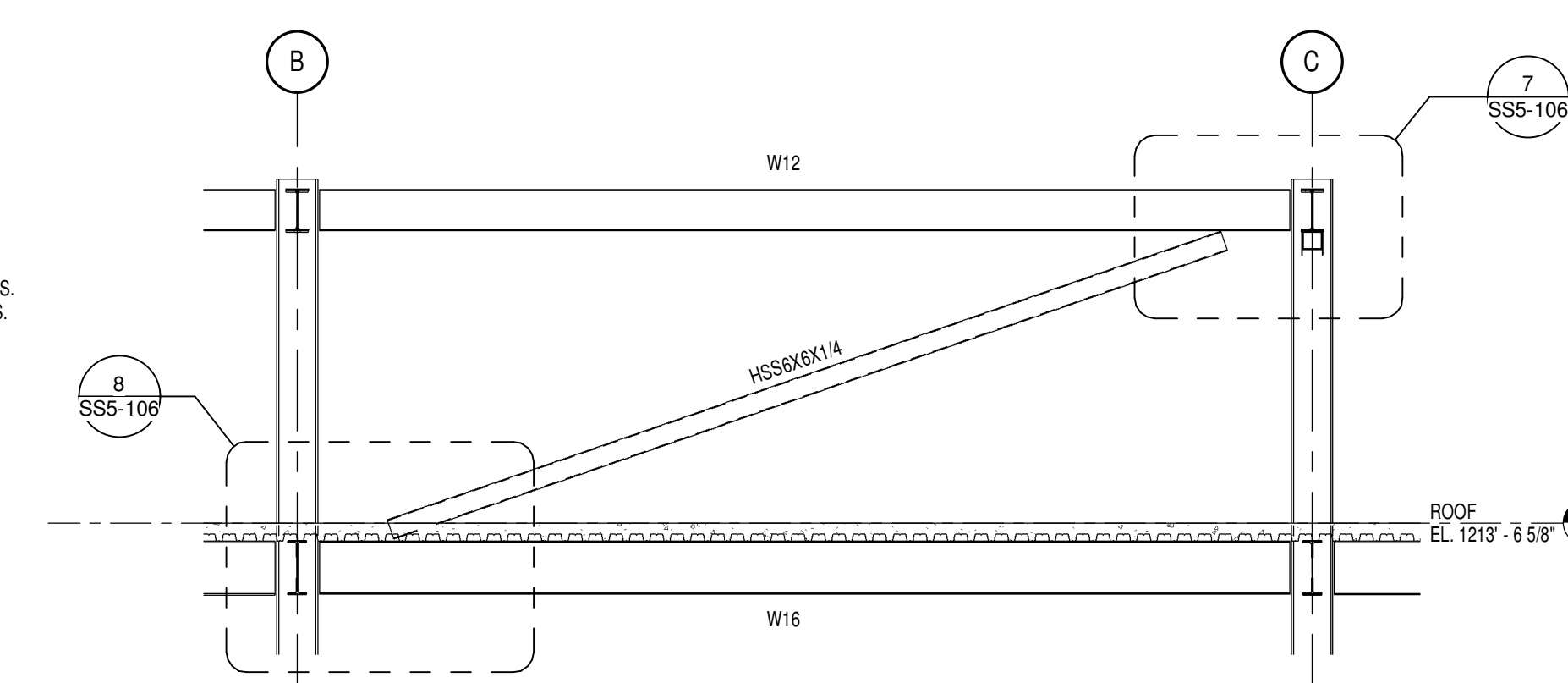
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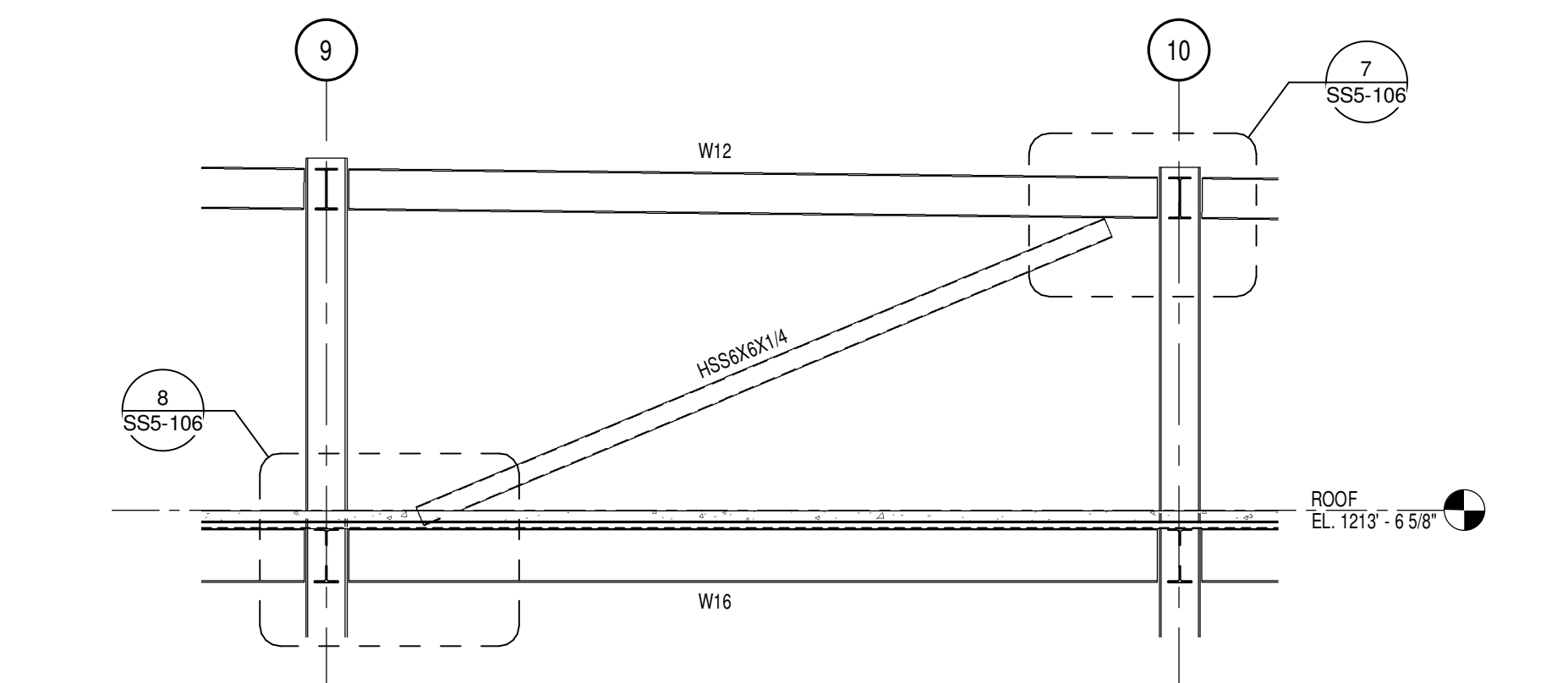
7 DETAIL
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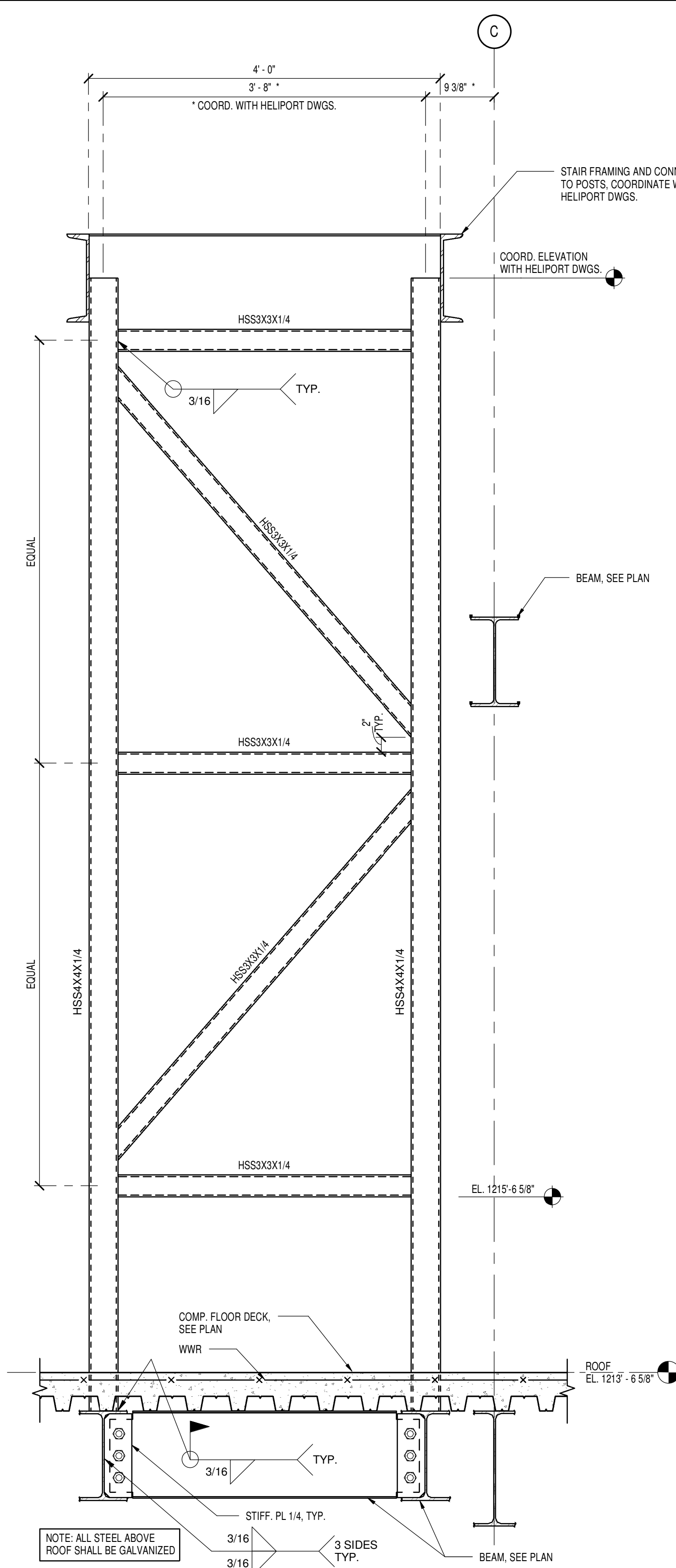
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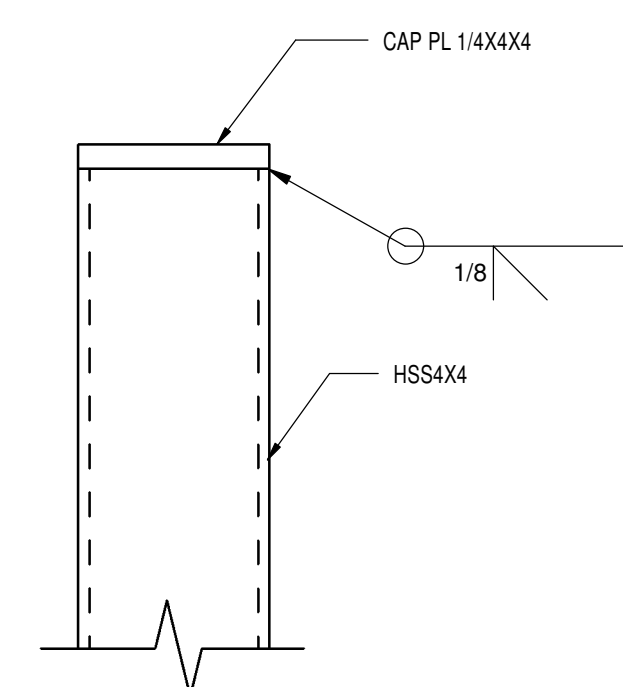
6 SECTION
1/4\"/>

CONSULTANTS: HDR HDR Architecture, Inc. 1101 King Street Suite 400 Alexandria, Virginia 22314-2944 703.518.8500		ARCHITECT/ENGINEERS: ASTORINO ARCHITECTURE ENGINEERING INTERIOR DESIGN DESIGN/BUILD 221 First Pitt Boulevard Pittsburgh, Pennsylvania 15222 TEL: 412.765.1700 FAX: 412.765.1711 www.astorino.com		Drawing Title STEEL - SECTIONS AND DETAILS Approved: Project Director		Project Title VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA, RESEARCH OFFICE BLDG. Location VAPHS UNIVERSITY DRIVE Date 08-18-2010 Checked JHC Drawn RAW		Project Number 646CA2500R Building Number 30 Drawing Number SS5-106 Dwg. of		Office of Facilities Management Department of Veterans Affairs	
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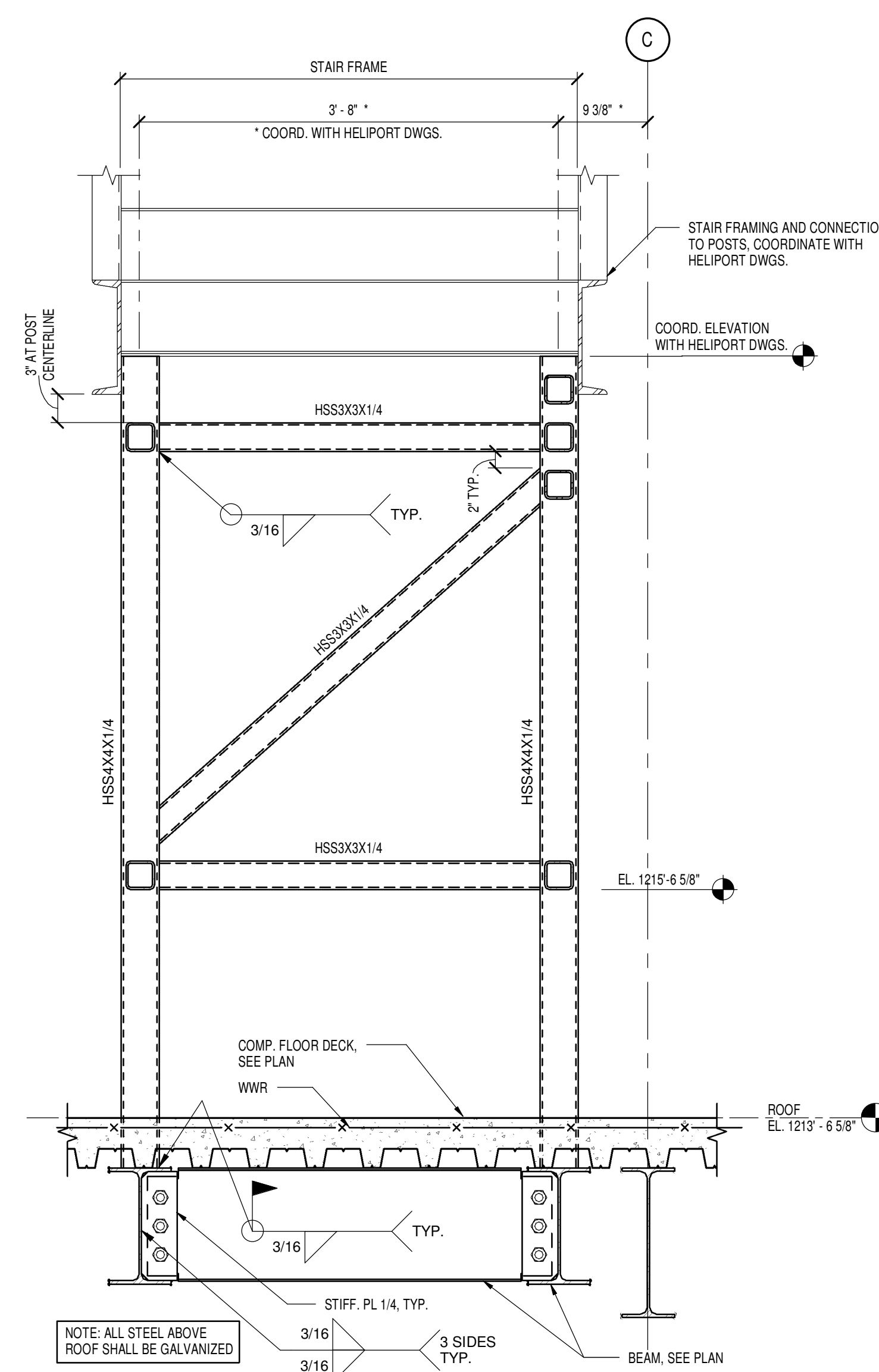
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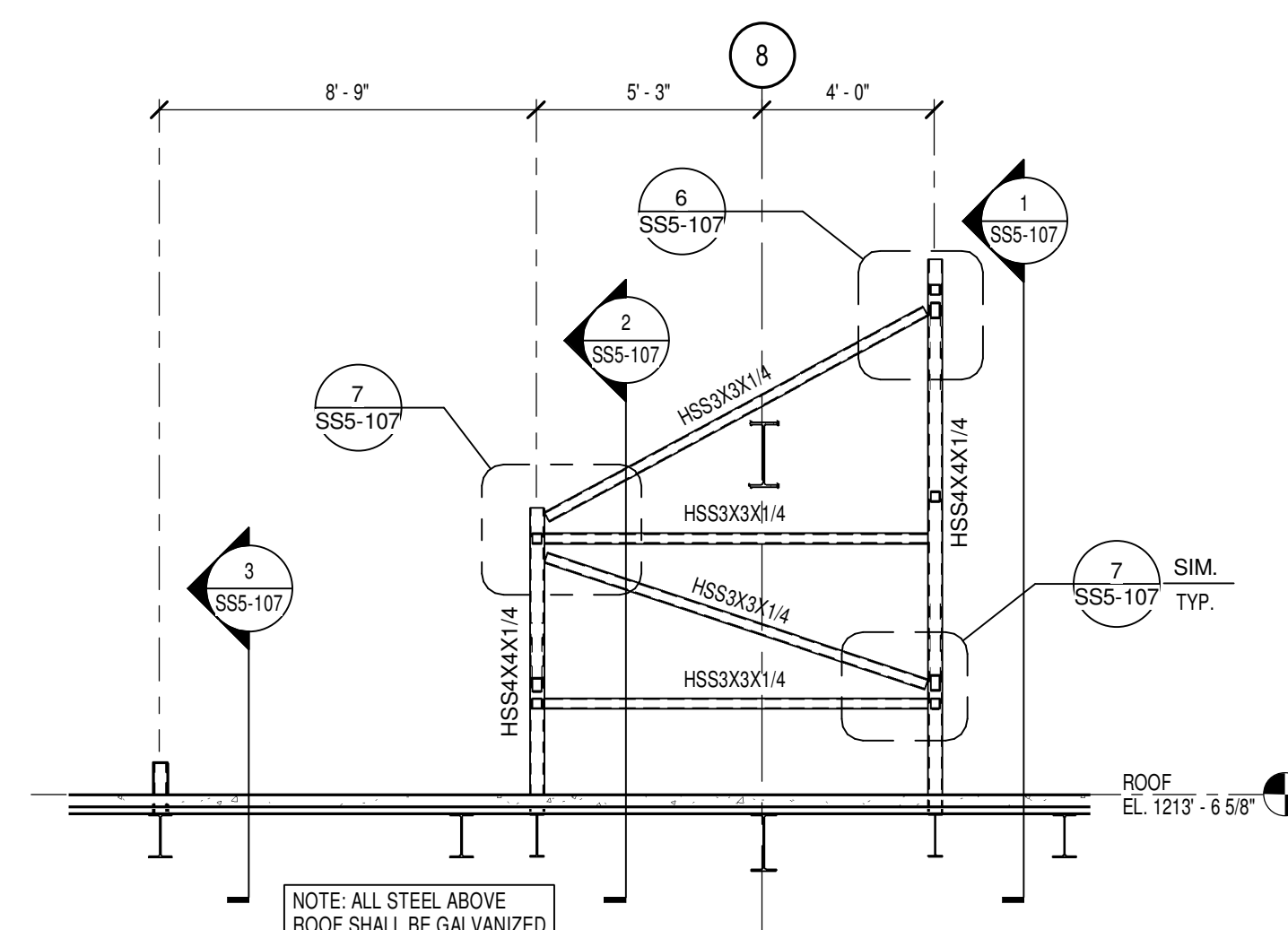
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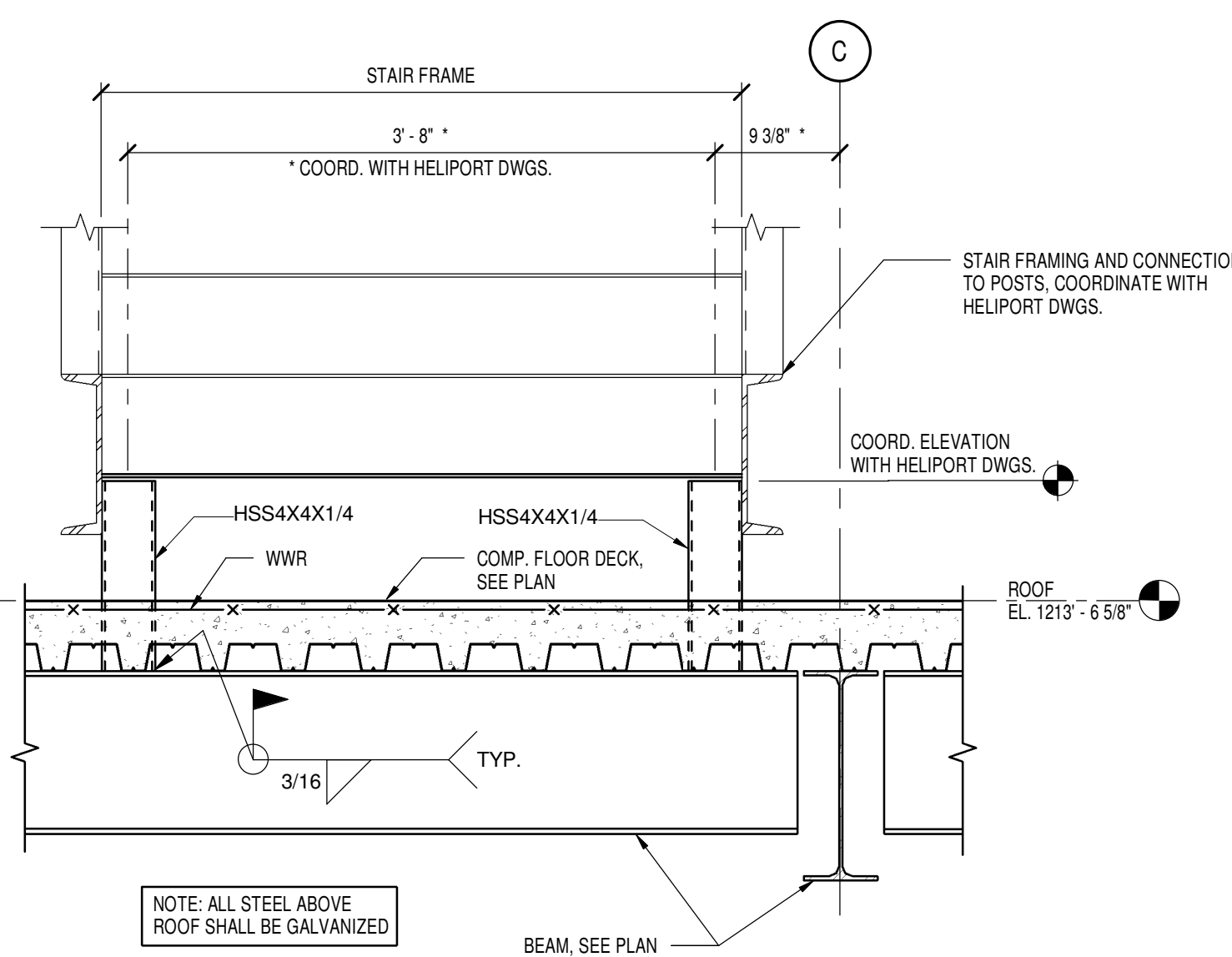
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3" = 1'-0"



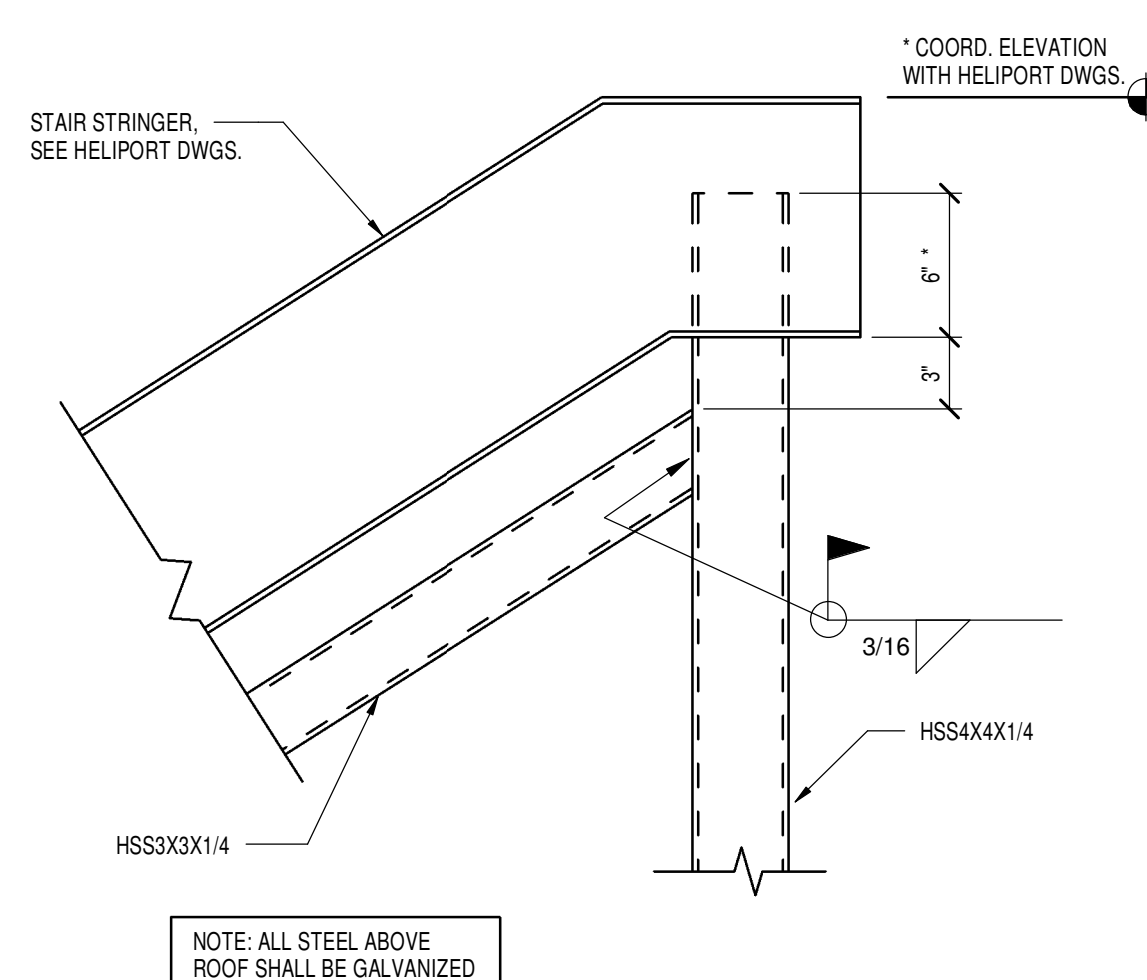
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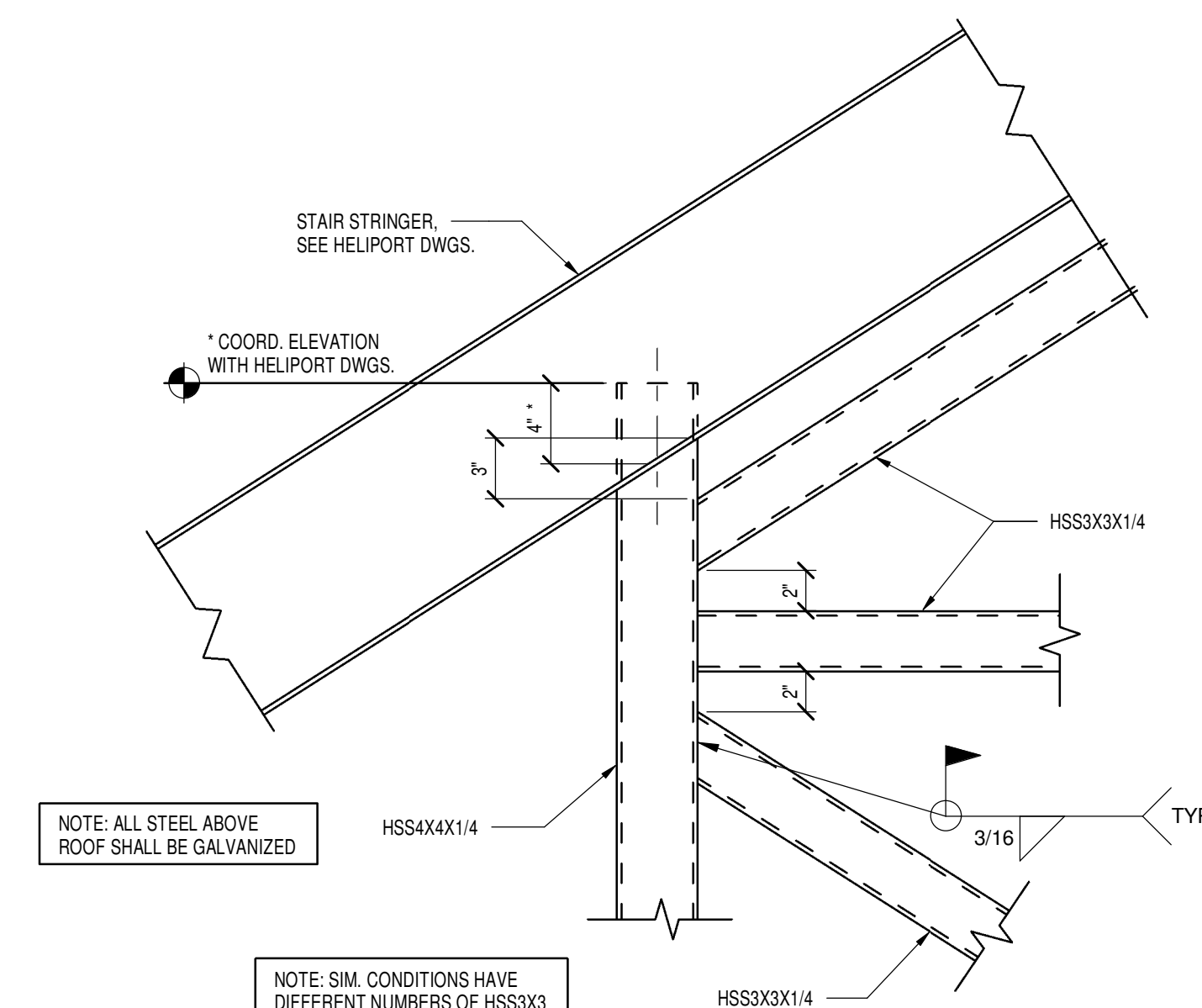
5 SECTION
1/4" = 1'-0"



3 SECTION
1" = 1'-0"



6 DETAIL
1 1/2" = 1'-0"



7 DETAIL
1 1/2" = 1'-0"

[illegible]**CONSULTANTS:**

H&R

HDR Architecture, Inc.

1101 King Street | Suite 400 | Alexandria, Virginia 22314-2944 | 703.518.8500

ARCHITECT/ENGINEERS:

ARCHITECTURE
ENGINEERING
INTERIOR DESIGN
DESIGN/BUILD

ASTORINO

227 Fort Pitt Boulevard Pittsburgh, Pennsylvania 15222
TEL: +1 412 368 1700 FAX: +1 412 368 1711 info@wiley.com

	Drawing Title
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STEEL - SECTIONS AND DETAILS

Approved: Project Director

	Project Title
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**VA CARES CONSOLIDATION
VAMC, PITTSBURGH, PA,
RESEARCH OFFICE BLDG.**

	Location

Date
08-18-2010

Checked	JH
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Drawn	
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Project Number

646CA2500R
Building Number
30

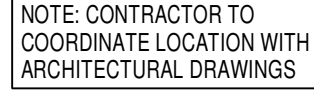
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**Office of
Facilities
Management**



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FULLY SPRINKLERED



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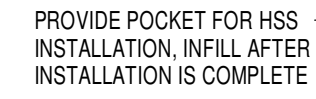
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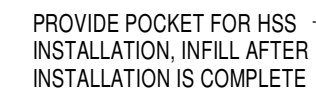
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LOCATIONS WITH ARCHITECTURAL
DRAWINGS AND WINDOW REQUIREMENTS

(1)



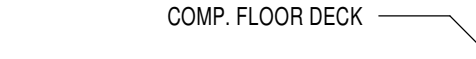
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(2)



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SEE ARCH.

(3)



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VA FORM 08-6231, OCT 1978

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ARCHITECTURE
ENGINEERING
INTERIOR DESIGN
DESIGN/BUILD

ASTORINO

227 Fort Pitt Boulevard Pittsburgh Pennsylvania 15222
TEL 412 765 1700 FAX 412 765 1711 www.astoriso.com

	Drawing Title
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Approved: Project Director

	Project Title
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Location	
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Date _____

Checked

Drawn

Project Number

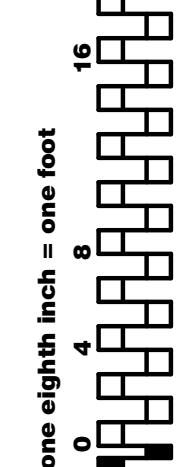
Drawing Number

— — —

**Office of
Facilities
Management**



FOR CONSTRUCTION
FULLY SPRINKLERED



STAIR ROOF																											STAIR ROOF
1233' - 3 5/8"																											1233' - 3 5/8"
HIGH ROOF																											HIGH ROOF
1218' - 6 5/8"																											1218' - 6 5/8"
ROOF																											ROOF
1213' - 6 5/8"																											1213' - 6 5/8"
SECOND FLOOR																											SECOND FLOOR
1197' - 6 5/8"																											1197' - 6 5/8"
FIRST FLOOR																											FIRST FLOOR
1180' - 2 5/8"																											1180' - 2 5/8"
GROUND FLOOR																											GROUND FLOOR
1162' - 10 5/8"																											1162' - 10 5/8"
BASEMENT FLOOR																											BASEMENT FLOOR
1146' - 10 5/8"																											1146' - 10 5/8"
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Column Locations																											

**NOTE: ALL BASE PLATES SHALL HAVE
4-7/8" DIA. ANCHOR BOLTS, UNO.
SEE DWG. SS5-103 FOR DETAILS**

**Office of
Facilities
Management**

**Department of
Veterans Affairs**

1101 King Street | Suite 400 | Alexandria, Virginia 22314-2944 | 703.518.8500

227 Fort Pitt Boulevard Pittsburgh Pennsylvania 15222
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Approved: Project Director

Page 1 of 1

